

## **Stunt Psycho R3045**

### **49.860MHz Receiver Operation Description**

The **STUNT PSYCHO** powered by 6x1.5V AA size batteries or 9.6V Ni-Cd battery pack. It is designed to operate at 49.860MHz. The receiver receives and demodulates the AM transmitted signal from the transmitter, using a RF pre-amplifier circuit comprised of ANT L1 Q21 L9 and standard super-regenerative AM receiver/demodulator circuit comprised of, Q1, T1, L2 and associated passive components .T1 is a tunable core slug inductor that is used to tune the receiver for maximum sensitivity. The output of the AM receiver/demodulator is AC coupled to a signal amplify circuit comprised of Q2 and Q3, then input to U1's P50 pin for on-chip decoding.

A Zener regulator circuit comprised of Q4 ZD1 C19, C21 and R11 creates the supply voltage, VCC for the super-regenerative radio, decoder IC and Comparator section. Drive motors M1 and M2 are controlled by the U1, IC, M1 driving circuit consists of Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12 and its associated components, M2 driving circuit consists of Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20 and its associated components. Q22 is for LEDs driver.

The protection circuit consists of U2, LM339 and its associated components, while U2 pull low U1's P51, P53, P52, U1 will stop motors. The following conditions will be detected and cause U1 stop motor output: Motor are locked, or battery voltage drop to <5V, or RT1 thermistor detected about >50C temperature.

The manufacturer performs all tuning and verifications and there are no adjustments that can be made by the user. No extend ground is required or used with this receiver.