
REBOUND SUPER BIKE

49. 860 MHz Receiver Operational Description

The REBOUND SUPER BIKE is a full function radio controlled toy car. It operates on 7.2 volts rechargeable NiMH pack battery . and is designed to operate on a single fixed frequency in the 49.82 – 49.90 MHz band. See the attached block diagram and schematic.

The modulated RF signal from the transmitter induces an electrical signal into the car's permanently attached metal internal antenna. The electrical signal is selectively amplified by a super regenerative input circuit (Q9,Q27,L2,L3,L1,C10,C7,C8).

The signal is then input into an integrated circuit (U2), where the signal is amplified and decoded two pairs of digital outputs Q3,Q4,Q8 control the percentage of power to the driving motor M1.Steering motor driving circuit comprised of Q5,Q6,Q18,Q19,Q20,Q21.

The forward signal is then input into a delay change state circuit(U1-C,Q13) , after a preset time Q13 will change the U2 MOD pin to low voltage , then the forward & backward will output the lower percentage of power . The lower percentage signal is then input into a change PWM circuit , which the signal is adjusted and send to the control driving motor circuit .

The backward signal pass Q10,Q13 then change the U2 MOD pin to high voltage , then the forward & backward will output the full power .

The battery voltage is detected by a low voltage protect circuit (U1-B,Q7,Q11) . When the low voltage protection sustain a preset time , Q7 will cut off U2's signal input. Next play need switch off/on SW.

The operating current of motor M1 is detected by a high current protect circuit (U3-A,U3-B,U3-C,Q2,Q12). When the over current sustain preset time , Q2 will cut off the forward signal , next operate trigger can resume to normal.

All tuning and verifications are performed by the manufacturer and there are no adjustments that can be made by the user. No external ground is required or used with this receiver.