# 9.6V STREET BEAST TRUCK # 97993
# 49.860MHz RECEIVER OPERATIONAL DESCRIPTION

The 9.6V Street Beast Truck is a full function radio controlled toy truck . It operates on 9.6 volts supplied by 9.6V Nicad battery pack. It 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 truck's permanently attached internal wire antenna. The electrical signal is selectively amplified by a super regenerative input circuit ( Q1,L2-L3,C2-C6,R1 ). The signal is then capacitively coupled ( via C7 ) to a dual differential amplifier circuit ( Q2-Q5 ) which amplifies the signal . This signal is then sent to the MCU ( U1) were it is decoded. Steering motor position feedback is sent to the MCU has inputs D0-D2. The MCU outputs digital signals to drive a full H-bridge drive circuit ( Q7,Q9,Q10,Q12 ) for controlling the speed and rotational direction of the steering motor. Three digital outputs from the MCU drives two relays( RL1,RL2 ) and a power MOSFET ( Q16 ) for controlling the speed and direction of the drive motor. A current sense resistor ( R42 ) provides a motor current signal which is amplified and time delayed by a dual comparator circuit ( U2 ). This circuit disables the motor drives if the current is over limit for a set time period.

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