

WAVERIPPER 27.145MHz TRANSMITTER OPERATIONAL DESCRIPTION

The Waveripper R/C transmitter is a low powered, hand held unit for controlling the movement of a toy boat. The single function transmitter is powered by a 9 volt battery. It is designed to operate on a single fixed frequency in the 26.96 – 27.28 MHz band. See the attached block diagram and schematic.

A single push button switch activates a multi vibrator circuit (Q3 and Q4) which produces the digital control signal which will modulate the carrier signal. The carrier signal is generated by a LC oscillator amplifier circuit comprised of a T2,C13,C15,C12 and a npn transistor (Q2). The RF carrier signal is modulated by the digital control signal at the base of an RF amplifier stage (Q1). The modulated output of the RF amplifier stage is capacitively coupled (via C3) to the antenna through a “ pi “ matching network comprised of C1, T1 and C2. The antenna is ~ 7 inches long and permanently attached.

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 transmitter.