

OPERATIONAL DESCRIPTION

The Sea Arrow R/C transmitter is a low powered, hand held unit for controlling the movement of a toy boat. The transmitter is powered by a 9 volt battery. 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.

Joystick inputs trigger an integrated circuit (U1) which produces the digital control signals which will modulate the carrier signal. The carrier signal is generated by a crystal oscillator/ amplifier circuit comprised of a 49.860 MHz crystal (X1) and an 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 C10) to the antenna through a “ pi “ matching network comprised of C11, T1 and C17. The whip antenna is 12 inches long and permanently attached.

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