NSECT J9862
27.145 MHz TRANSMITTER OPERATIONAL DESCRIPTION

The NSECT control transmitter is a low powered, hand held unit for controlling the movement of a toy NSECT. The transmitter is powered by a 9-volt battery. It is designed to operate on a single fixed frequency in the 26.98~27.28MHz band. See the attached block diagram and schematic.

Input switches trigger an integrated circuit (U1) which produces the digital control signals that will modulate the carrier signal. The carrier signal is generated by a crystal oscillator circuit comprised of a 27.145MHz crystal (Y1) and a PNP transistor (Q2). The RF carrier signal is modulated by the digital control signal at the base of an RF amplifier stage (Q3). The modulated output of the RF amplifier stage is capacitively coupled (via C12) to the antenna through a “pi“ matching network comprised of C13, T1 and C14. The antenna is about 13 inches length and permanently attached.

A LED acts as a power-on indicator.

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.