

## **Operational Description**

The device is a battery operated mobile radio transmitter, and is intended to control small hobby or toy aircraft, ground vehicles, and marine vehicles. The transmitter is hand-held and operates in the 900 MHZ ISM band. The device uses FSK (Frequency Shift Keying) to send digital data and commands at 2000 baud.

The transmitter includes a Lithium Polymer charger, on-off switch, two joysticks, and 3 trimmer potentiometers. A micro controller reads the position of the joysticks and trimmers and modulates the rf data stream accordingly.

The antenna is a 7.6 cm half-wave dipole and consists of a copper trace printed on the PCB (Printed Circuit Board).

Transmission frequency is controlled by the user when power is applied and is one of the following frequencies: 915.5 MHZ, 916 MHZ , or 916.5 MHZ. The transmitter operates at 75% duty cycle.

The transmitter also can be put into Game Controller Mode. In this mode, the RF transmission is halted and the data is sent to a connector mounted on the side of the case. The data protocol in this mode is 19.2 KBaud over RS-232.