

Remote Transmitter Circuit Operational Description

U1 is an RFM TX5003 transmitter – the chip, in conjunction with the associated circuitry, is used in the on-off keyed (OOK) configuration. The RFM TX5003 operates at 303.825 MHz, the antenna is approximately 8.3 inches, a single strand wire.

Q1 operates as a switch, completing a hard reset to U2; it also holds U2 in reset while the battery is being charged – this renders U2 inoperable when connected to the battery charger.

U2 and its associated circuitry are the microprocessor control of the circuit – the mcu is controlled by user-activated switches. The mcu is synchronized to U1 (RF chip), and controls U1's output. The clock oscillator for the mcu is 32.786kHz. JTAG connector ports are added for on-board programming.

U3 and associated circuitry regulate the incoming voltage – incoming voltage from the wall mount battery charger is regulated down to 4.5Vdc. This circuitry controls the input voltage, and provides a trickle charge to the battery pack. U4 and its associated circuitry offer a boost converter to provide a Vcc higher than the 2.4Vdc of the battery pack.