TX Operational Description

Transmitter frequency: 27.045MHz, 27.095MHz and 27.145MHz
Modulation: FM

Slide button of Switch S1 up, TX is powered from 12V battery. Slide button of Switch S1 down, battery is charged, TX will not work.

TX working mode:
Joystick's signals are encoded by IC U1. Pin 8 of U1 modulates signals to crystal oscillator 27MHz via diode Z1. The modulated signals are amplified by Q6 via C33. T2 is a mid-frequency selector. Q1 amplifies signals again and forward them to match circuit which consists of T3, C5 and L1. Antenna transmits signals to a receiver.

Battery charging mode:
Pin 3 of IC U4 detects battery voltage low, Pin 4 drives Q4 to switch on. Then B of Q5 is at low voltage so that Q5 switches on. Current flows to charge battery via Q5, R22, R25 and R12. When battery is fully charged, pin 3 detects it. Via R14 Q3 switches on, then Q4 and Q5 switch off to stop charging.