

Circuit Description of RB741 & RB742

Both RB741 (one button) and RB742 (two button) are RF transmitters for gate operator radio control system. RB741 and RB742 share the same PCB, but different assemblies. Parts (R2, D2, D5) are only installed for the second button version - RB742.

Each transmitter is supplied with a 12V DC battery. The red LED on the transmitter lights on when the button is pressed, to indicate RF transmission. The red light is dim indicates that the battery in transmitter may be weak and need be replaced.

HT6026 (U1) is an encoder. The HT6026 detects the setting on the 9 posts 3 throws switch (SW3) and generates code. Each post of SW3 can be set in ternary states (low, high, or open). Then, there are $3^9 = 19683$ different codes for user.

L2, C6, C7, Q1, and X1 are parts of the Colpitts oscillator. The oscillator generates 318MHz carrier wave. Above code signal will modulate the Colpitts oscillator. RF signal is sent out by antenna formed in PCB trace.