

**Looney Tunes Bumper Car      B7170**  
**49.860MHz Transmitter Operational Description**

Looney Tunes Bumper Car radio control transmitter is a low powered, hand held unit for controlling the movement of the RC car. It is powered by a 9V battery and is designed to operate on a single fixed frequency in the 49.82-49.90 MHz band.

The RF link (control method) of TX is established by generating a square wave at a regular frequency (there is only one key – SW1 on the transmitter). This wave will be integrated with a carrier signal that later interpreted by receiver decoder for the car controlling.

The controller has 3 main parts, an encoder for wave generation, an oscillator and an RF amplifier.

Whenever the key is pressed (SW1), a square wave will be generated through Q3 and Q4 from the 9V battery. At the same time, this wave will be received by Q1 through R3.

T1 and Q2 is a crystal control oscillation circuit generating the carrier signal and the power is applied when SW1 is pressed. It outputs to RF amplifier via C7. Q1 is a RF amplifier and it receives signal from oscillator (RF frequency) and modulating pulse from encoder. A band pass filter is placed between the amplifier and antenna to reduce upper harmonic & spurious emission.

All tuning and verifications are performed by the manufacturer and there are no adjustments which can be made by the user. No external ground is required or used with this transmitter.

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