

SPECIFICATIONS & FUNCTIONAL DESCRIPTION

WAE00007, W3BR - TRANSMITTER

1.0 DESCRIPTION

The W3BR is a low-power hand held communication device operating at a frequency of 318 MHz. The signal output is a binary-coded, pulse-position type A1D modulated transmission which has an information rate of approximately 167 bits per second (bps) coded by a special retail version of Linear's Megacode wireless format for the Westinghouse WGDO series of garage door operators.

Actuating any of the three push buttons illuminates a light-emitting diode (L.E.D.) and activates the transmitter. Releasing the push-button immediately terminates transmission. Transmission time is limited to 10 seconds if button is held on.

2.0 FUNCTIONAL DESCRIPTION

The push-button switches, S1-3, applies power to the unit and activates L.E.D. (D3).

Digital encoding is a function of microprocessor, U1. A 4MHz resonator, internal to the microprocessor determines the clock frequency. There are 1,048,576 possible code combinations. Coding is done during manufacture and is not user accessible.

The RF transistor Q1 functions as a tuned Colpitts power oscillator whose feedback is primarily determined by C3. The frequency of oscillation is controlled by variable capacitor C5. The inductive trace load L2 is configured on the circuit board as the principle-radiating element. Resistor R10, in conjunction with the base bias resistors R8 and R9, regulates the power output of the oscillator.

Because of the transmitter's small size, its radiation pattern is similar to that of an elementary dipole.

3.0 SPECIFICATIONS

Product Identification:	W3BR Three channel door transmitter
Encoding Technique:	A1D Pulse position Modulation at 167 bits/sec.
Number of codes:	1,048,576
RF Carrier Frequency:	318 MHz +/- 500 KHz
Power Requirements:	6 VDC - 2 - 3 volt coin cell lithium batteries, 6 mA
Operating Temperature Range:	0 to 50 °C Tested -30 to +70 °C
Timing:	10-second maximum transmission per activation
Size:	3.75" x 2.15" x 0.90" (approx.)

All specifications nominal unless specified.