

**MCT-2**  
**THREE CHANNEL MEGACODE DOOR TRANSMITTER**  
**DNT00084**

**DESCRIPTION:**

The MCT-2 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 A modulated transmission which has an information rate of approximately 167 bits per second (BPS).

Actuating a push-button illuminates a light-emitting diode (L.E.D.) when adequate operating voltage is available. If the battery does not have sufficient power, the L.E.D. will not light up when the transmitter is activated. Releasing the push-button terminates transmission. Transmission time is limited to 10 seconds if button is held on.

**FUNCTION:**

The push-button switches S1(Channel 1) or S2 (Channel 2) apply power to the unit and activate L.E.D. (DS1). Pushing both buttons simultaneously activates channel three. The L.E.D. will not light when the operating battery voltage is less than 7.3 volts. It dims significantly when less than 7.7 volts is available.

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 C4. 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.

## SPECIFICATIONS

|                              |   |
|------------------------------|---|
| Product Identification:      | MCT-2 Three-channel door transmitter          |
| Encoding Technique:          | A1 Pulse position Modulation at 167 bits/sec. |
| Number of codes:             | 1,048,576                                     |
| RF Carrier Frequency:        | 318 MHz +/- 900 kHz                           |
| Power Requirements:          | 9 VDC battery at 15mA                         |
| Operating Temperature Range: | 0 to 50 °C                                    |
| Timing:                      | 10 second max transmission per activation     |
| Size:                        | 3.75" x 2.15" x 0.90" (approx.)               |
| Features:                    | LED indicates battery condition               |

All specifications nominal unless specified.