

4130T—Technical Description

The 4130T is a small battery (two CR2032s) powered door chime transmitter contained in plastic case with a metal or plastic decorative front, meant to be wall/door-frame mounted, and serve as an RF replacement for regular house-hold wired doorbells. The case is made of plastic and measures 3.25 inches long, 1.03 inches wide and .86 inches tall, with the button protruding another 0.08 inches for total height of 0.94 inches. The case opens manually for battery changing and there are two screw holes on the case back-cover for mounting the transmitter to a surface.

There are two user momentary pushbutton switches on the transmitter, one for the RING function and a second for the SCROLL function. The scroll function is to change songs on the receiver. There are also 5 ADDRESS jumpers, all hard-wired & soldered to the board, in shorted position. This is the normal address setting. If two or more of the 4130T units are used in proximity and with two different receivers, an address jumper may be cut on one transmitter/receiver set to differentiate the two transmitter/receiver sets and allow independent operation.

Operation: When a button is depressed a microprocessor, clocked with a 4MHZ resonator, is activated. Once activated, the microprocessor sends out pulse-position encoded modulation to the RF section, which functions in the ASK mode. The theoretical duty cycle of the modulation is about 13%. The total transmission time is 1.5 seconds. The modulated bits are unique to the receiver and contain address bits, song bits, and more. The RF section is a simple one-transistor, SAW controlled 315MHZ oscillator, and employing a loop and wire coil antenna.

The power supply is two CR2032 Lithium batteries for a total of 6VDC. The batteries directly supply the RF section and a 3V regulator that is used to supply the microprocessor.