

3301T, 10-6-29--TECHNICAL DESCRIPTION:

Revised 8-23-2010

The 3301T (3301H1C.PCB) is a small battery (two CR2032,s) powered door chime transmitter contained in plastic casing, 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, 1.07 inches wide and .95 inches high. The case opens manually for battery changes using a plastic case tab.

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 3301T units are used in proximity and with two different receivers, an address jumper may be cut on one xmtr-rcvr set to differentiate the two rcvr-xmtr sets and allow independent operation.

Operation: When a button is depressed a micro-processor, clocked with a 4MHZ resonator, is activated. Once activated, the micro sends out pulse-position encoded modulation to the RF section and functions in the ASK mode. The duty cycle of the modulation is about 13%. Two modulated output words are transmitted, one via pulse-width, and the second with a WAKE signal (900HZ @ 12% duty) of about 160ms-200ms followed by a pulse position word. Each modulation type works with a different receiver demodulation design. The transmitter output duty as a whole, is less than 13%. The transmitted bit information includes: Start, song bits, address bits and more.

The RF section is a simple one-transistor 315MHZ Colpitts oscillator, LC tuned, and employing a stub antenna.

The power supply is two CR2032 Lithium batteries for a total of 6VDC. The output directly supplies the RF section and thru a diode the microprocessor.