

Technical Description

Company name: PRIMATRONIX LTD
Model no.: CD810 (Transmitter)
Date: May 29, 2006

1. General description

This device contains ASK transmitter with a built-in encoder IC. The main purpose of the device is used to send a unique encoded signal to activate the receiver in a corded phone.

2. Circuit description

When SW1 is pressed, the encoder IC (EV1527) will be turned on. Then the encoded signal will be modulated to ASK signal by a SAW resonator (SAW2) with a centre carrier frequency 868.35 MHz. The modulated signal will be amplified by a RF amplifier and transmit through a permanently attached antenna 2.

The frame structure of the encoded data is shown as follow:

Preamble	C0 - C19 security code	D0	D1	D2	D3
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Where C0 - C19 contains security code information, which will be described in the next section. D0 - D2 are preset to be '0' by the hardware configuration during production and D3 is a control bit.

3. Security coding information

This device contains an encoder IC. The length of security code is 20 bit, which can provide up to $2^{20} \sim 1$ million different codes. When the pairing button is pressed on the phone base and SW1 is pressed at the transmitter side, the encoder at the transmitter side will generate a random security code. The decoder at the receiver side will then recognize and 'remember' this security code from the transmitter. Then this recognized security code will be used for each transmission for each pair up transmitter and receiver. This security code will only be changed when the pairing procedure is being taken again.

As the length of the security code is significantly long, therefore it can minimize the possibility of code 'collision'.