Operational Description

1. **The circuit function and device operates**

   1.1 The transmission unit being made up of 4 sections: the +3v CR2032 battery, the micro controller digital encoder, 433.92 MHz SAW resonator and RF transmission circuit (Refer to attached transmission block drawing) .

   The code being modulated to 433.92 MHz frequency point, using ASK modulation type (details please refer to the code description), the frequency band width is 1 MHz. The Duty cycle of code is 1:3. The bit rate is 1100bps.

   1.2 The receiver unit being made up of 5 sections: the +3v CR2032 battery, +2.5v power regulator, RF receiver demodulation, micro controller digital decoder and alarm circuit (Refer to attached receiver block drawing).

   The 433.92 MHz high frequency signal being mixed with the LOF, and output 1.8 MHz IF signal, then input to micro controller to decode, and drive the speaker by output.

   1.3 When Using, power on the receiver unit at first, the LED of receiver unit will glow long time, and the receiver unit will send out short sound “BE”(interval time is 2s), then power on the transmission unit, the receiver unit will send out long sound “ BE”, which means that the study code of receiver and transmission unit is successful, at the same time the LED of receiver and transmission unit will twinkle. The receiver unit will not send out sound until the distance between the receiver and transmission unit is out of the specification. The high/low switch is to control the receiver distance, when you feel the receiver distance is too near, you can slide the switch to high location, otherwise to the low location.

2. **Attached statement**

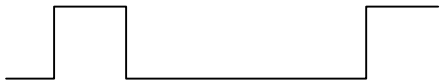
   2.1 The transmission unit being fixed to PDA or other things, the receiver unit being kept with you, put it to your pocket or the travel bag.

   2.2 The same frequency band and metal object will make the receiver distance shorten, you can slide the high/low switch to high location.

3.**The code description**

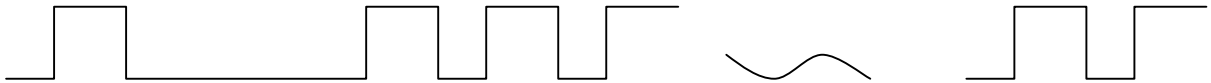
3.1 Define:

a. The start code: Occupy 1 bit code width. Being made up of the high level(0.56ms) and the low level(2ms). The wave type as below:



b. The data code: Occupy 16 bits code width. “1” means that high level is 0.56ms and low level is 0.28ms. “0” means that high level is 0.28ms and low level is 0.56ms. The wave type as below:

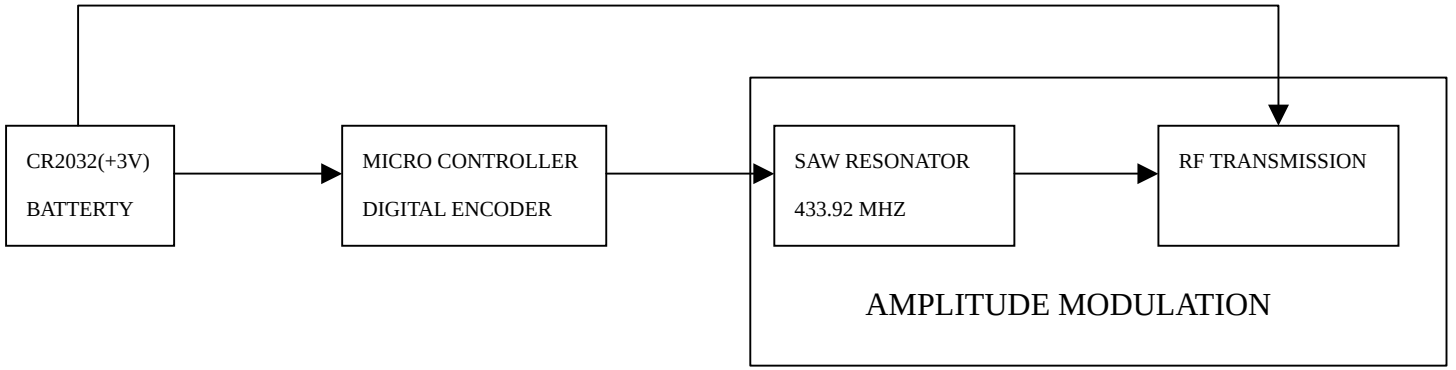
c. The frame: Occupy 17 bits, being made up of 1 bit start code and 16 bits data code.



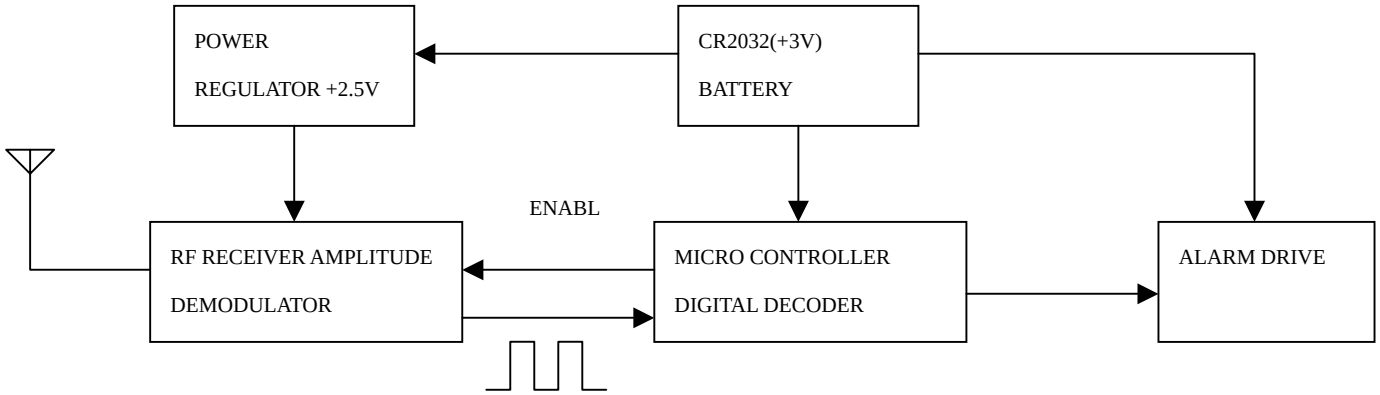
The start code (1 bit) The data code (16 bits)

3.2 Code transmit:

The TX unit transmits 3 frames every time, and the interval time of transmission between the first time and the next time is 800ms.



DX-149 TRANSMISSION BLOCK



DX-149 RECEIVER BLOCK