

## **Wireless Door Chime**

### **Technical information**

This Wireless door chime to form as two parts - Transmitter (Bell Pusher) & Receiver (Door Chime)

#### **Transmitter:**

The transmitter is powered by a CR2032 battery.

IC1 is a MCU, when the button (connected to pin4) is pressed. The MCU will generate an enable signal to the turn on the RF chip and a serial ID code and apply to the RF chip TH72031 for FSK modulation.

L1 is the loading of the RF output. The L2, C3 & C4 are form as antenna matching network. The modulated RF signal will applied to the antenna via this network.

Q1 & Q2 are the trigger circuit of window sensor. When the magnetic device closes and leaves the magnetic switch. The Q1 will send a low signal to MCU. The MCU will generate an enable signal to the turn on the RF chip and generate a serial ID code and apply to the RF chip.

The transmitter goes with a test pad. It connected to the pin 17 of IC1 and ground. When this pad is connected. The transmitter will be turn on continually (for test only).

#### **Receiver:**

The receiver is power by 3 x 1.5V 'C' size batteries.

The IC A720 is a receiver chip. the RF signal from antenna is couple to the pin 7 of the receiver chip via the tuning circuit, and the output received signal will couple to the MCU, the MCU will decode the signal and make decision what to do,

The receiver chip is work in 1/100 duty with 1 second cycle. Once an effective is detected. The duty period will be extending until a data frame have be received.

This receiver is using learning system. The codes are story in the flash memory inside the MCU. Once the receiving codes are matches the storied code. The chime will sound, the flasher will flash and the led indicator will show which button being pressed.

The Q6 is a switching transistor to drive the flasher (3 LED)

The Q2, 3, 4 & 5 are switch transistors to drive the ID LED.

IC3 is a melody chip. It contains 16 melodies. The melody will be selected by MCU according to the setting. IC4 is audio amplifier.

The IC1 is a regulator, it provide a stable voltage to the receiver chip.