

RF Description(HJ-WXYKMD)

1, HJ-WXYKMD01(TX)

1.1, Brief.

HJ-WXYKMD01 can only transmit electromagnetic wave (315MHz), and never receive electromagnetic wave (315MHz).

If you press any key on the control panel , the IC(Charge Pump) named U2 which can charge the power from DC3V to DC5V works first , and the RF TX module (U3) will be supplied with the power DC5V. Then, 100 milliseconds later and the power DC5V is stable, the RF TX module (U3) begin emit electromagnetic wave (315MHz) coded by MCU (U1).

1.2, TX Code (Figure 1).

In this system, 1 millisecond high voltage followed by 3 millisecond low voltage at the 13th pin of MCU means '0' , 3 millisecond high voltage followed by 1 millisecond low voltage at the 13th pin of MCU pin means '1'. While the pin's voltage is low ,the RF TX module (U3) emits 315MHz electromagnetic wave , on the other hand the RF TX module (U3) never emits while the pin's voltage is high.

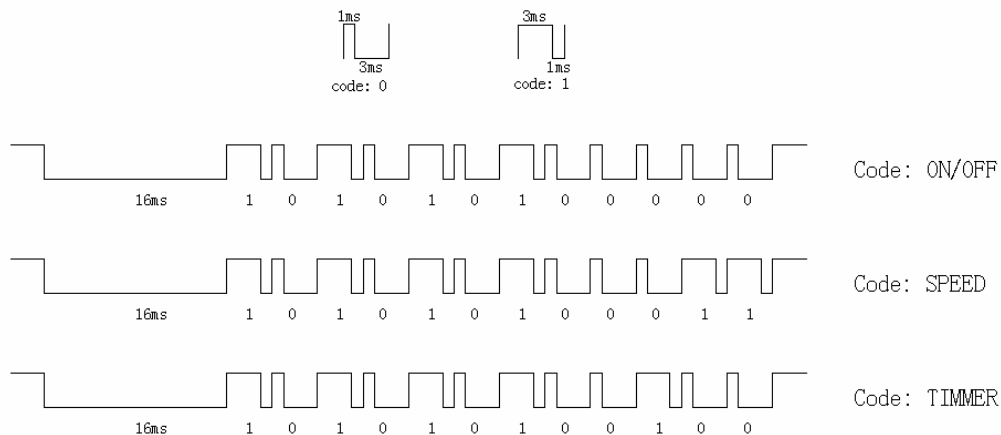


Figure.1 TX Code

In this type of code, the first 16 millisecond is the head to tell the receiver the code will come, then '10101010' is the address of frame, the last four bits is the code of function for ON/OFF(0000), SPEED(0011), TIMMER(0100). As the length of one bit is 4 millisecond ,the whole length of one frame is 64 millisecond.

1.3, The Program of TX. (Figure 2)

Once you press a button(ON/OFF, SPEED, TIMMER), the 14th pin of the MCU(U1) will be high voltage, this make the IC named U2 work. U2 (charge pump) charges the voltage DC3V to DC5V, and supply power DC5V to RF module (U3). The 13th pin of the MCU(U1) begin to code the RF module(U3) 100 millisecond later after U2 begin to work.

One press of button will cause the 13th pin of U1 code 3 times and thus the RF module(U3)

will emit 3 times. There is 50 millisecond between every emission. If the receiver get the correct code twice, that means the communication is correct and will cause following action.

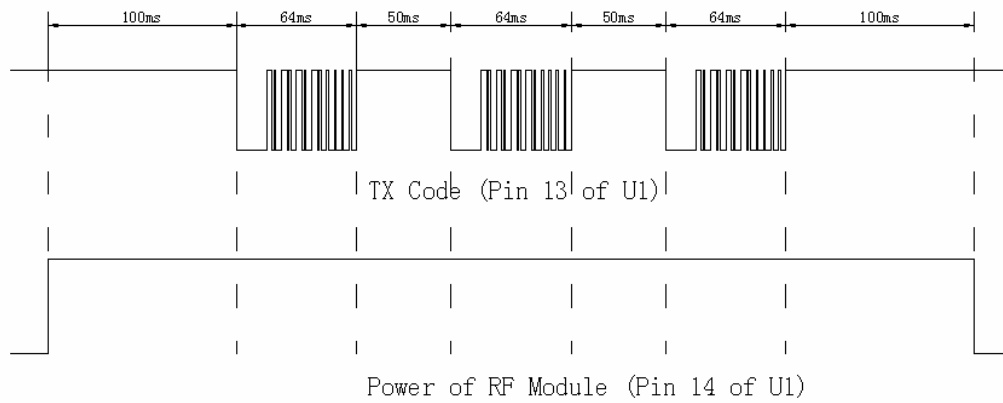


Figure.2 Program of TX

2, HJ-WXYKMD02(RX)

2.1, Brief.

HJ-WXYKMD02 is just receiver and never emit electromagnetic wave. Once the RF RX module (U4) receive the electromagnetic wave, the encoded code will be sent to the 17th pin of MCU(U1). The encoded code is just the same as the code emit from the MCU pin on HJ-WXYKMD01. The system of HJ-WXYKMD02 will work following the code.

As the receiver never emit and just as the normal electrical board, I won't talk too much about the receiver. If you want more information, you can research the functional specification.