

Main Structure of Rx unit

The Rx Unit (Base Unit), the mainly RF received communication channel is 315MHz, the structure of the Rx unit include 8 bit MCU, 16k EEPROM, 315MHz RF Receiver board, LCD display, keypad input, Control Solenoid output & 4pins marry communication channel with base unit. The supply source by 24V AC.

RF Board

The Receiver RF board, the fundamental oscillator frequency is 73.4MHz and the data received Base received sensitivity is “- 60dBuV”. On the circuit U1 TA1142FN function is demodulation the incoming signal.

The Q3 “2SC3585” is the local oscillator & Q5 “2SC3585” transistor are the side band frequency filter, signal voltage regulator & Mixer signal to IC.

The IF frequency is 455KHz by the U2 Ceramic Discriminator.

MCU

The 8 bit MCU (HE89A22) is main control in the TX unit, This is received the RF board data, control External Memory (16K EEPROM), LCD display & Solenoid on/off. The main duty of MCU is represent the state from input ports (Key Pad or Low battery detected) and display the program states on the LCD display & output control on the Solenoid. The MCU can store the program data in to the external memory “EEPROM”.

The function of the C1, C2, C3, C4 & C5 is LCD Charge Pump setting,

IC3 16K EEPROM function is the external memory in the circuit

OSC1 is 4MHz for Fast Clock of internal interrupt Program.

OSC2 is 32768Hz for slow Clock & Real Time Clock of Program.

This is the External memory for automatic store the program data, when change the dial key position.

I/O Port

3 Group of input port in the Rx unit;

a/ Key pads input.

b/ Output pins Control for Solenoids.

c/ Received Data Decode.

d/ Data information port (for EEPROM & for Marry operation)

e/ Rain Sensor

Marry Operation

When let TX Unit & Base Unit has connected together, the 4 pins connection pins have created the communication channel for transfer the “date / time / Base number / Security Code” from Base Unit to TX Unit.

Solenoids ON/OFF

These are control by the MCU internal timing; the driver voltage is 24V.