

# XFO Function description

There are three parts for this product TX 、RX and Charger.

## 1.TX

Q1 、 D1 、 SW1 and its associated components formed a power supply and voltage regulator.

Q2 、 Y1 and its associated components formed a high frequency 27.145MHz oscillator.

IC U1 and key SW2 、 SW3 、 SW4 、 SW5 and its associated components formed a encode system. IC will generate different code signal at PIN3(D6) according the Open-Close state of SW2 、 SW3 、 SW4 and SW5.

D2 、 Q4 formed a power on indicator, D2 will bright when power on.

Q3 、 L3, ANT and their associated components formed a high frequency modulator, filter and RF signal transmit system. The high frequency signal is modulated by the code signal from the IC Pin 3. Then it is filtered by the filter, transmitted by the ANT.

## 2.RX.

The 9.6V battery BT1, Q1 、 SW3 、 D1, 5PIN DIN socket and their associated components formed a power supply system.

Q3 、 L2 and its associated components formed a super-regenerate receiver. It receive the RF (27.145MHz) signal then demodulate it . Output the code signal.

The demodulated signal is amplified by the Q5 · Q6 · Q4 · Q2, this four transistor and their associated components formed a amplifier. This amplified code signal is decode by the IC U2. IC U2 will output a motor drive signal at pin 4(D7). But this drive signal is also controled by the three sensor.

#### A. temperature sensor

RT1,U1C and the associated components is temperature detector. U1C will output a low level to U2 when the RT(housed in the 9.6V battery pack) is overheat, then IC U2 dissipate the output drive signal at PIN4.

B. Low voltage of 9.6V battery, U1B and its associated components formed a low voltage detector.

C. R48, U1A, U1B and its associated components formed a high current detector.

In the case of 9.6V battery low voltage or high current. U2 will dissipate the output drive signal at PIN4.

The Q8 · Q7 · Q9 and its associated components formed the driver circuit.

### 3.Charger

Plug the 5 PIN DIN header of charger to the 5 PIN DIN socket of the XFO Receiver.

Then press the “start” key.(\* be sure that the power switch of Receiver is on the off position at the first). The green LED will bright, it means the charger is charging. After about 4 minutes, the flashing of green LED means that the charging is completed. The

meaning of two LED state:

Green LED on .....charging.

Green LED flash .....charging completed.

Red LED on.....low voltage of SLA battery in charger need to be charged with  
the adaptor.

Red LED on.....high temperature of 9.6 battery in the Receiver, need to wait a  
moment till the temperature go down.

Red LED and Green LED flash.....means bad contact of 5PIN DIN header with  
5PIN DIN socket.