

2. 4GHZ remote controller

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operation instructions



Version update instructions

Date	Ver	UPDATE
2022/8/24	1.0	Initial version

一、 Overview of Remote Control

1. 2.4GHZ Introduction to Wireless Remote Control

2.4ghz wireless, It is a short distance wireless transmission technology for open source use. 2.4GHz refers to a working frequency band,

2.4GHz ISM (Industry Science Medicine) Bluetooth technology is a wireless frequency band that is widely used worldwide. Working in the 2.4GHz frequency band allows for a wider range of use and stronger anti-interference capabilities, and is widely used in household and commercial fields. Technology for short distance wireless transmission and transmission.

2. Working frequency

A single-carrier: Frequency point: 2.440G.

B For testing at 4 frequency points: [2.404G] [2.469G] [2.425G] [2.454G]

3. Application scope

Wireless remote control products: Portable remote control for user controlled treadmill

4. Carrier protocol

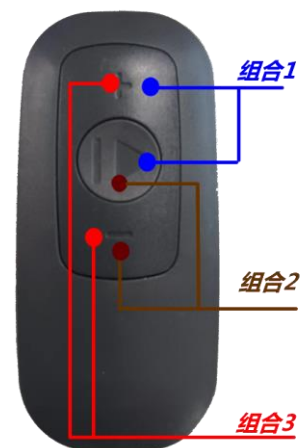
NEC agreement Software engineers can modify their functions based on key value codes custom code: **0x61d6**

Single key code value:

1. Speed +: 0x88
2. Start: 0x48
3. Speed -: 0xc8

Combination key value:

1. combination 1(Speed +、 Start): 0xe8
2. combination 2(Speed +、 Start): 0x18
3. combination 3(Speed -、 Speed +): 0x98



transmitting waveform: standardNEC, BOOT CODE +16BIT custom code+8BIT date+8BIT Data inversion+STOP.




A, BOOT CODE: 9mS(LOW)/4.5mS(HI).

data 0:560US(LOW)/560US(HI),

data 1:560US(LOW)/1680US(HI),STOP:560US(LOW).

5. Remote control controls treadmill buttons (common functions)

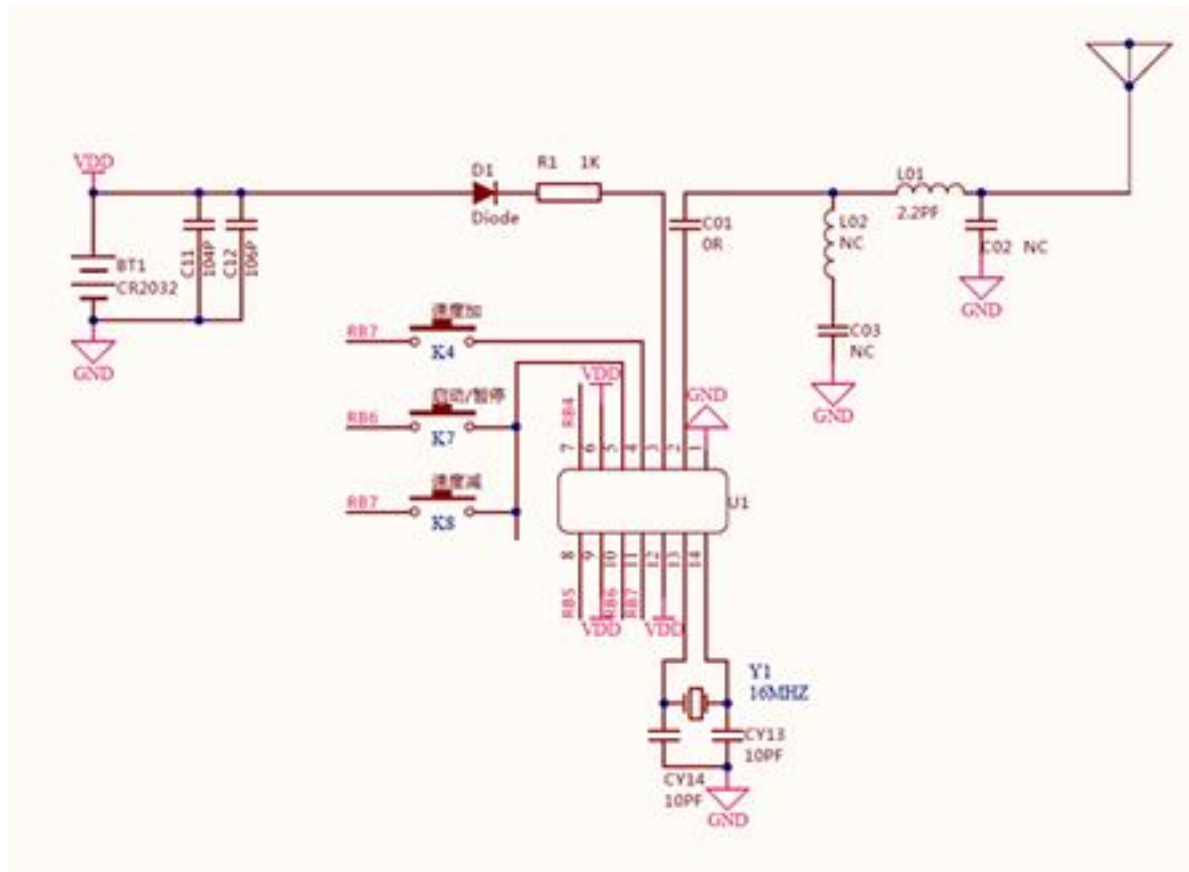
If the remote control does not respond or you have replaced it, you need to pair it again; Pairing method: Short press the start/pause button on the remote control within 5 seconds after power on to pair.

- 1、“” Start/Pause key: When the power is turned on and the safety lock is placed in standby mode, press this button to enter a 3-second countdown. The treadmill starts running at the lowest speed, and pressing this button during operation pauses the treadmill operation.
- 2、“”、“” Speed+-: Pressing the deceleration key will reduce the running speed of the treadmill, while pressing the acceleration key will increase the running speed of the treadmill; The adjustment amplitude value is 0.1 kilometers (miles) per time, and automatically continues to increase or decrease when continuously held down for more than 0.5 seconds.

The above button functions are commonly used button types, and users can define other functions for each button according to their own needs.

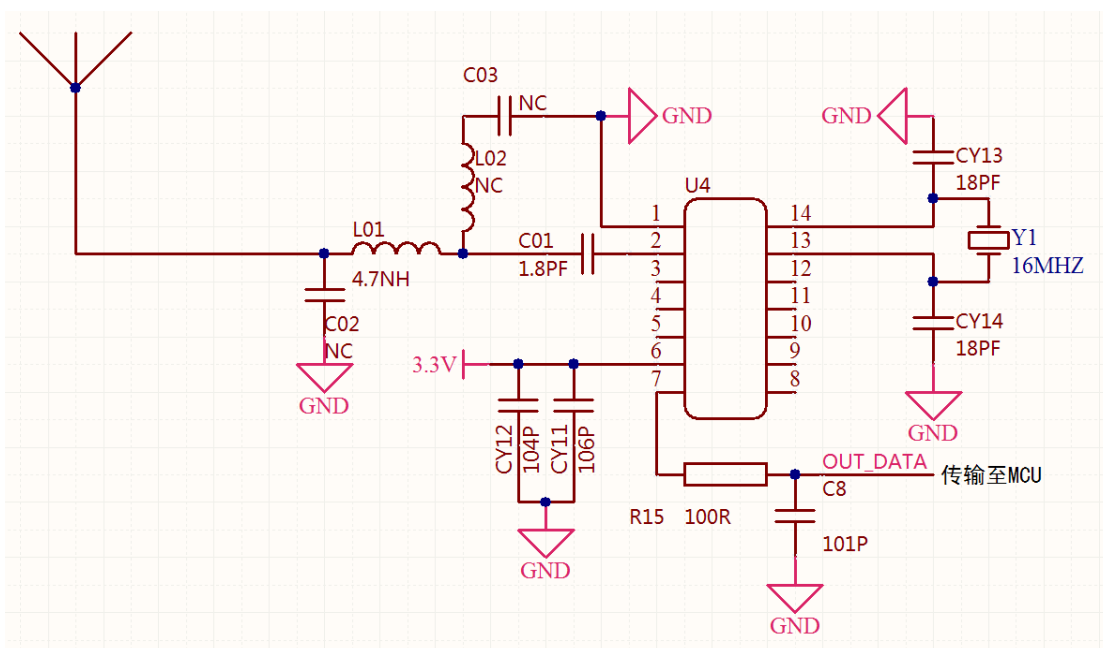
二、 Hardware information

1. Remote control schematic diagram



2. Remote control PCB patch diagram

3. Schematic diagram of the receiving end - 2.4G part



Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.