

HU-075 Radio audio kit

I、Function

1. Dual decoding supports music in MP3/WMA/WAV/FLAC/APE lossless formats
2. supports Bluetooth function, Bluetooth version 5.0
3. Support call function
4. Equipped with a power amplifier of 2 * 3W and connected to two 3W speakers simultaneously
5. Digital color screen display
6. Supports MMC/SD/MMA and other cards, supports USB interfaces (USB drives)
7. Power outage memory function
8. Support infrared remote control operation
9. Support external audio input LINE IN
10. Supports FM radio and retrieval frequency range (87.5MHz to 108.0MHz)
11. Key: Four key multi-directional control, VOL -/ PLSY/PAUSE /VOL+/MODE
12. Voice controlled LED metronome, sensitivity adjustable through potentiometer

II. Characteristic

1. Working voltage: DC DC5V
2. Working current: greater than 1A (working current varies under different radio stations and music)

3. Static working current: around 40mA (without music playback)
4. Output power: 2*3W
5. LED metronome PCB size: 100 * 30mm
6. Using amplifier chips to amplify sound without distortion when speaking loudly

III. BOM

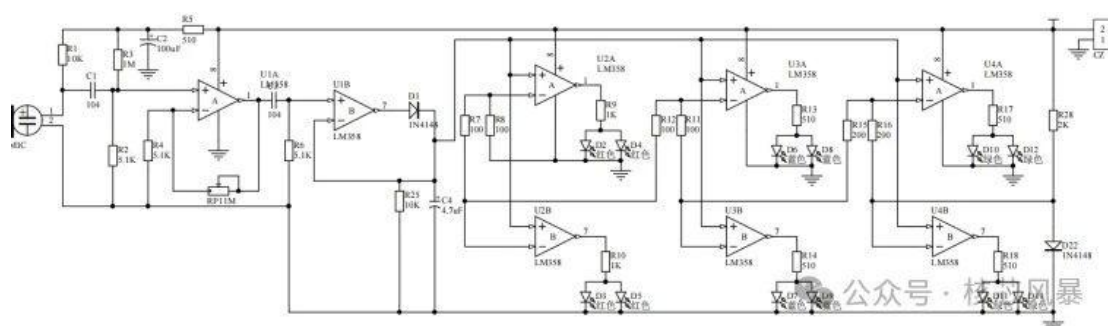
Num.	Name	Lable	Numb er	annotat ion
1	LM358	U1、 U2、 U 3、 U4	4	/
2	IC socket 8P	U1、 U2、 U 3、 U4	4	/
3	Pink LED	D2、 D3、 D 4、 D5	4	/
4	Blue LED	D6、 D7、 D 8、 D9	4	/
5	Green LED	D10、 D11、 D12、 D13	4	/
6	Diode 1N4148	D1、 D22	2	/
7	104 single stone ca pacitor	C1、 C3	2	/

8	DIP E-capacitor 4.7 uF	C4	1	/
9	DIP E-capacitor 100 uF	C2	1	/
10	DIP resistor 100Ω	R7、R8、R 11、R12	4	/
11	DIP resistor 200Ω	R15、R16	2	/
12	DIP resistor 510Ω	R5、R13、R 14、R17、R 18	5	/
13	DIP resistor 1K	R2、R9、R 10	3	/
14	DIP resistor 2K	R28	1	/
15	DIP resistor 5.1K	R6	1	/
16	DIP resistor 10K	R1、R4、R 25	3	/
17	DIP resistor 1M	R3	1	/
18	Blue and white adj ustable resistor 1M	RP1	1	/

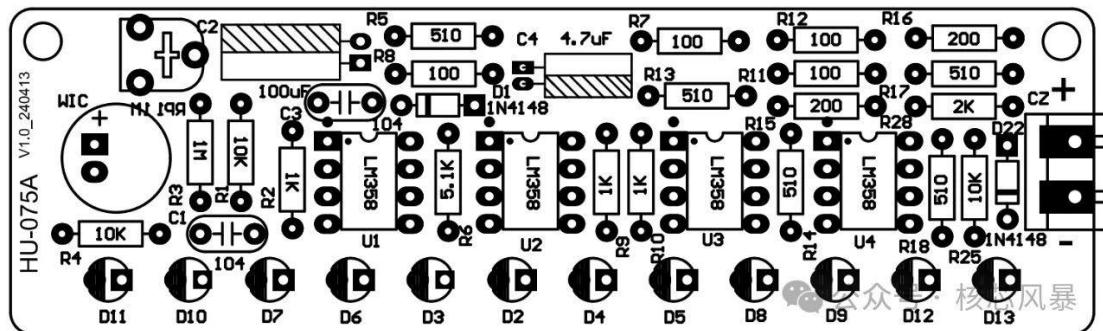
	(105)			
19	microphone	MIC	1	/
20	PH2.0 wiring terminals	CZ	1	/
21	Red and black connecting wires	/	1	/
22	PCB	/	1	/
23	Instructions	/	1	/
24	Bluetooth decoding board	/	1	/
25	Infrared remote control (with battery)	/	1	/
26	Red connecting wire	/	1	One end has been welded
27	Red and black single ended terminal wire		3	/

28	Screw cap	/	2	/
29	4 Ω 3W speaker	/	2	/
30	Rocker switch	/	1	/
31	DC power socket	/	1	/
32	Audio cable	/	1	/
33	Acrylic shell	/	1	/
34	Screw bag	/	1	/
35	Audio socket	/	1	/
36	Telescopic radio antenna	/	1	/
37	USB to DC cable	/	1	/

IV、Circuit schematic

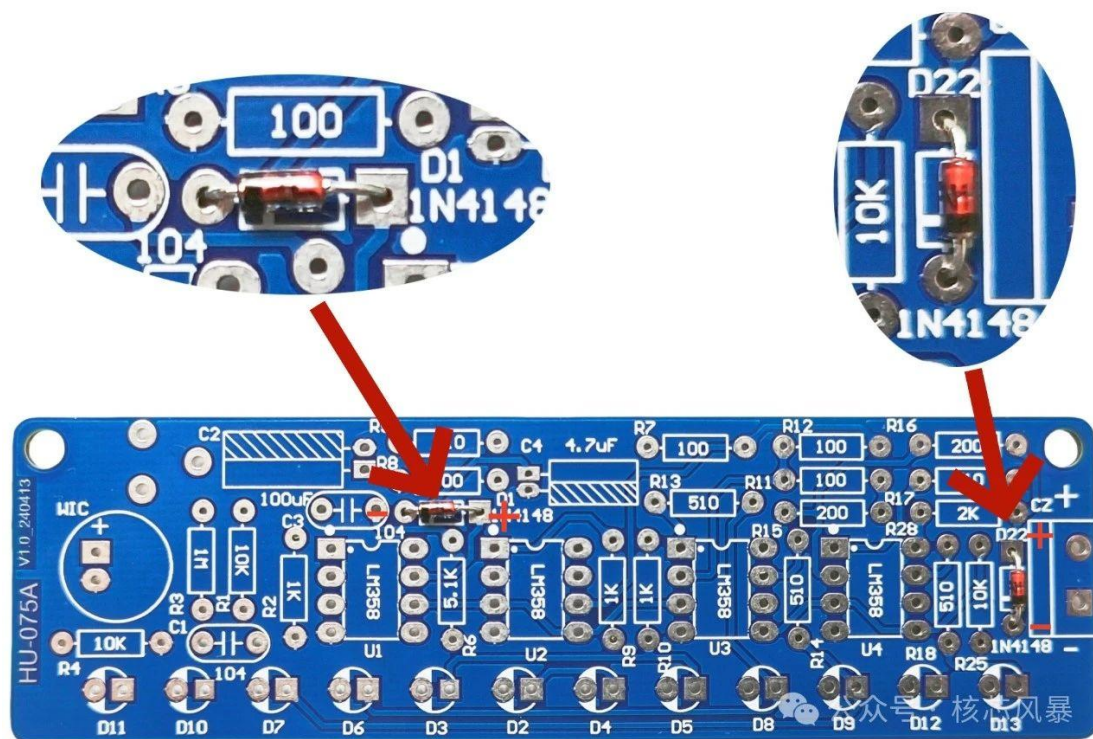


V、Component distribution diagram

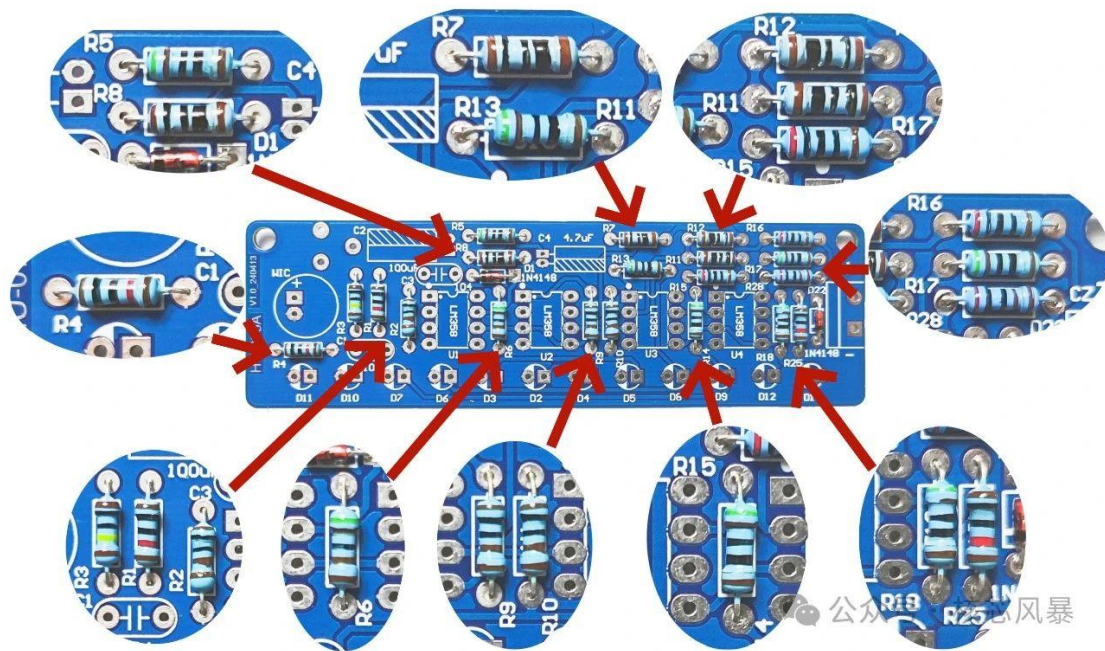


VI、Details of circuit board soldering steps

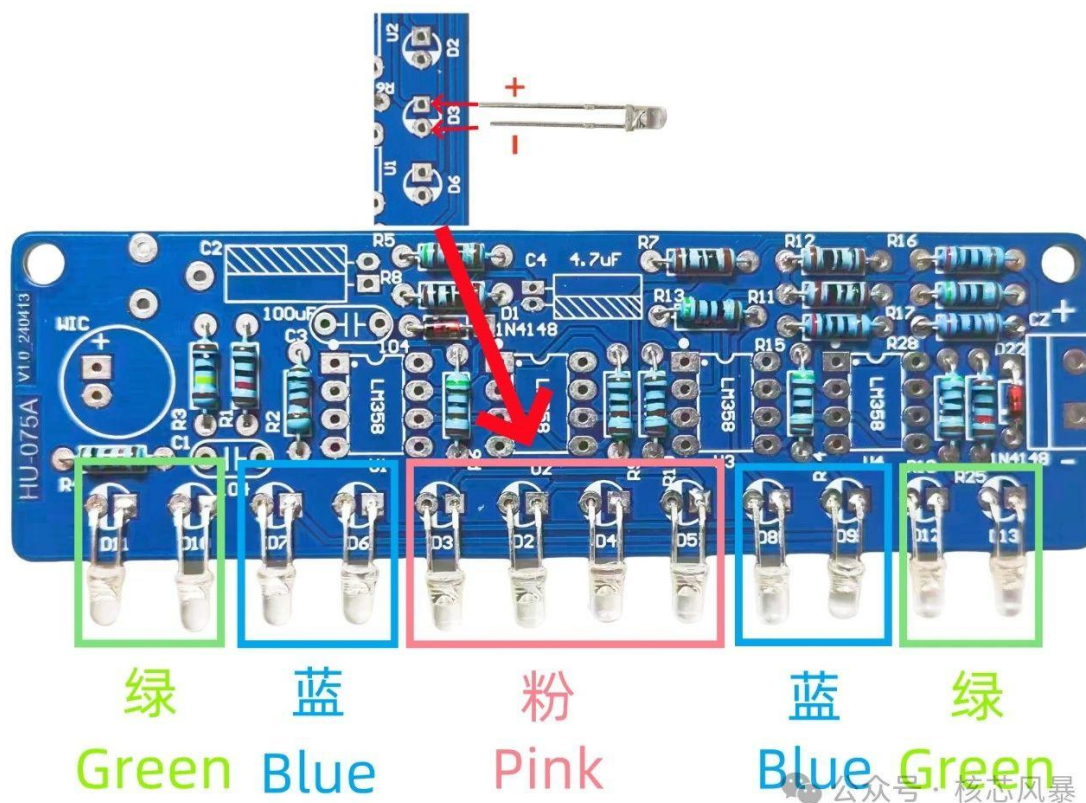
1. Solder 1N4148 diode



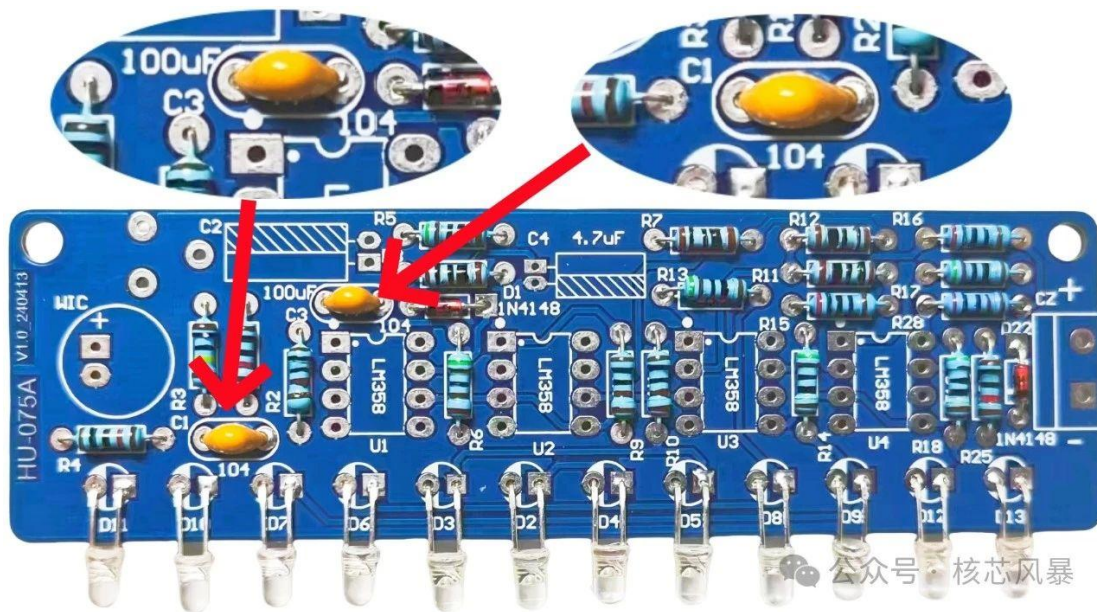
2. Solder 100 Ω , 200 Ω , 510 Ω , 1K, 2K, 5.1K, 10K, and 1M resistors respectively.



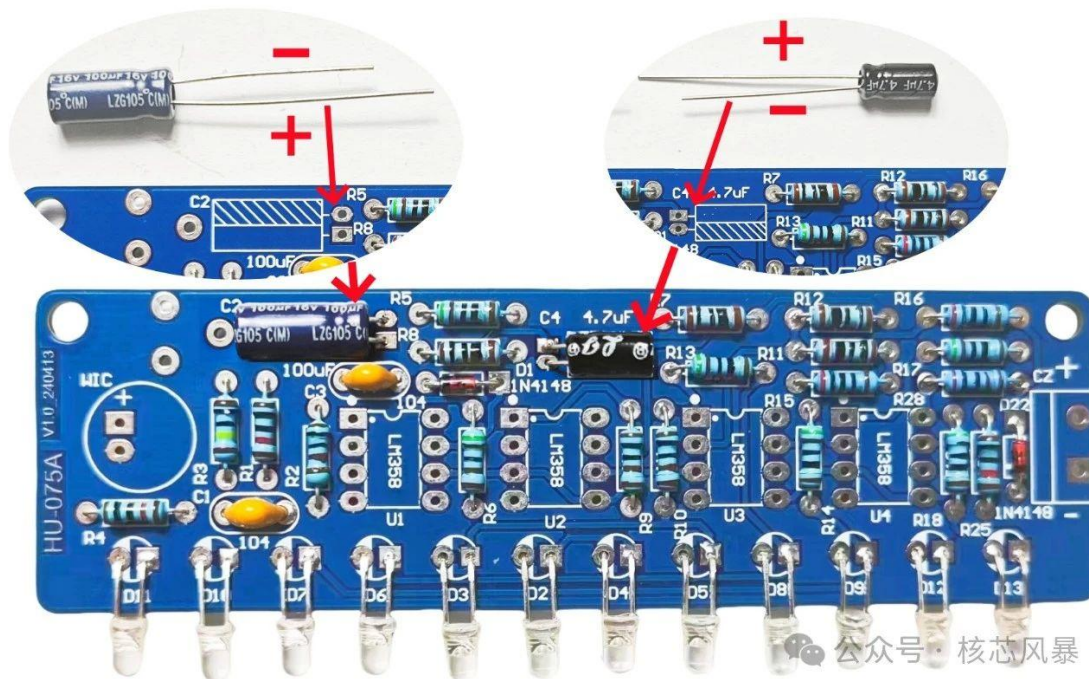
3. Solder white hair powder, white hair blue, and white hair green LED lights separately and bend them. (Long positive short negative)



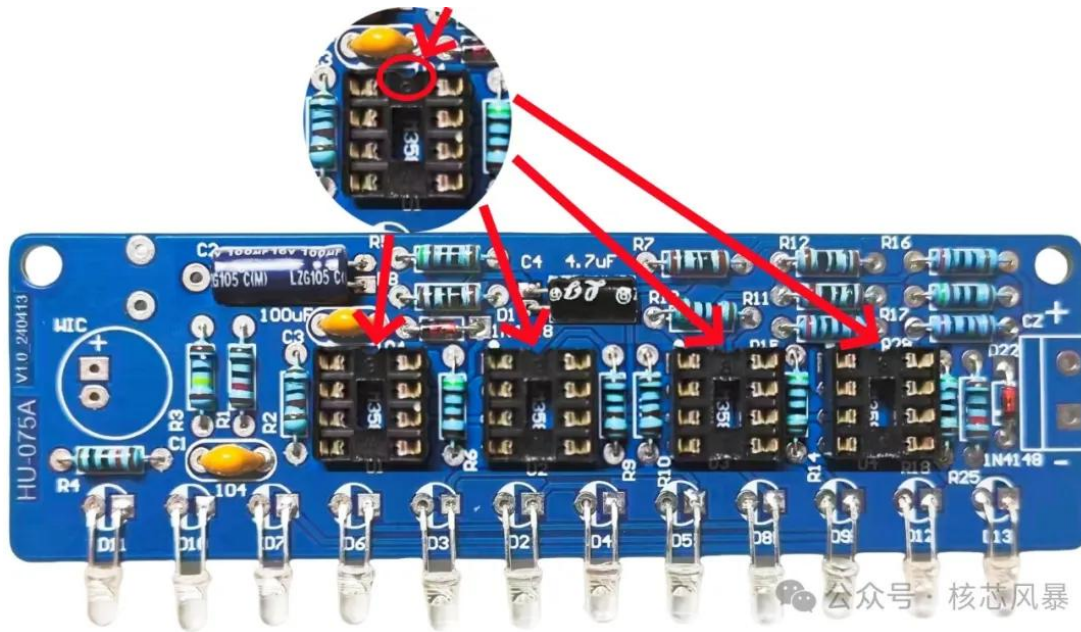
4. Solder 104 single stone capacitors.



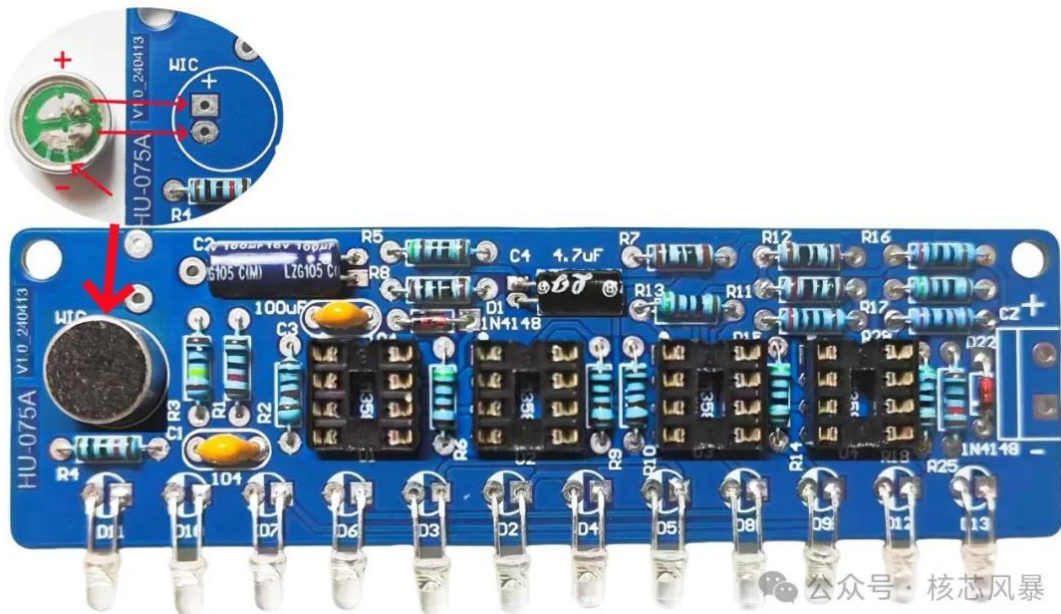
5. Solder 4.7uF and 100uF electrolytic capacitors and bend them. (Long positive short negative)



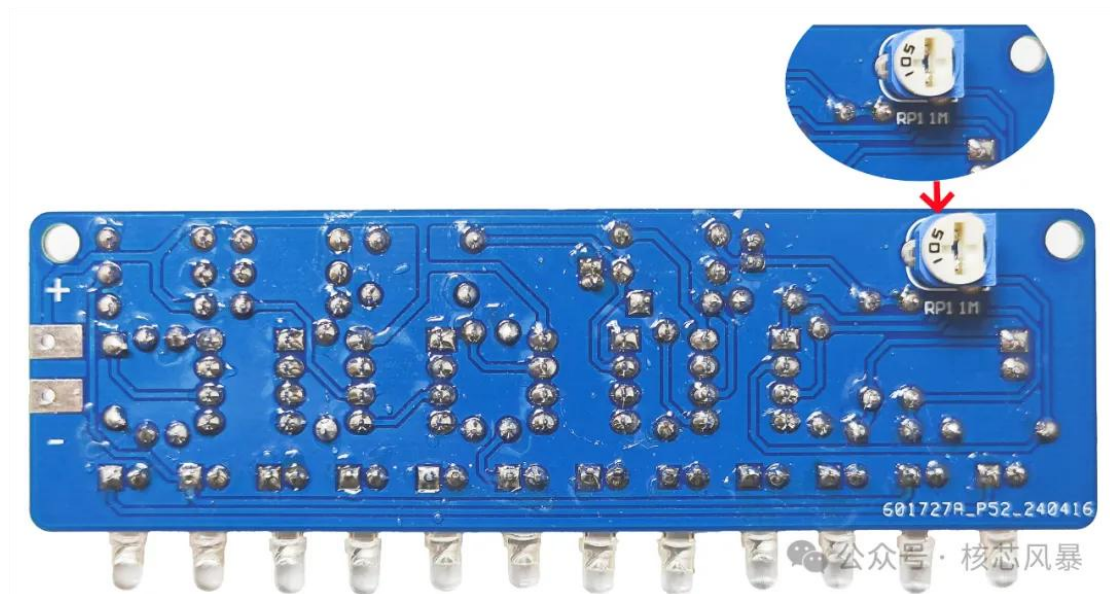
6. Solder the IC socket 8P. (The side with a notch faces the side with a notch on the PCB)



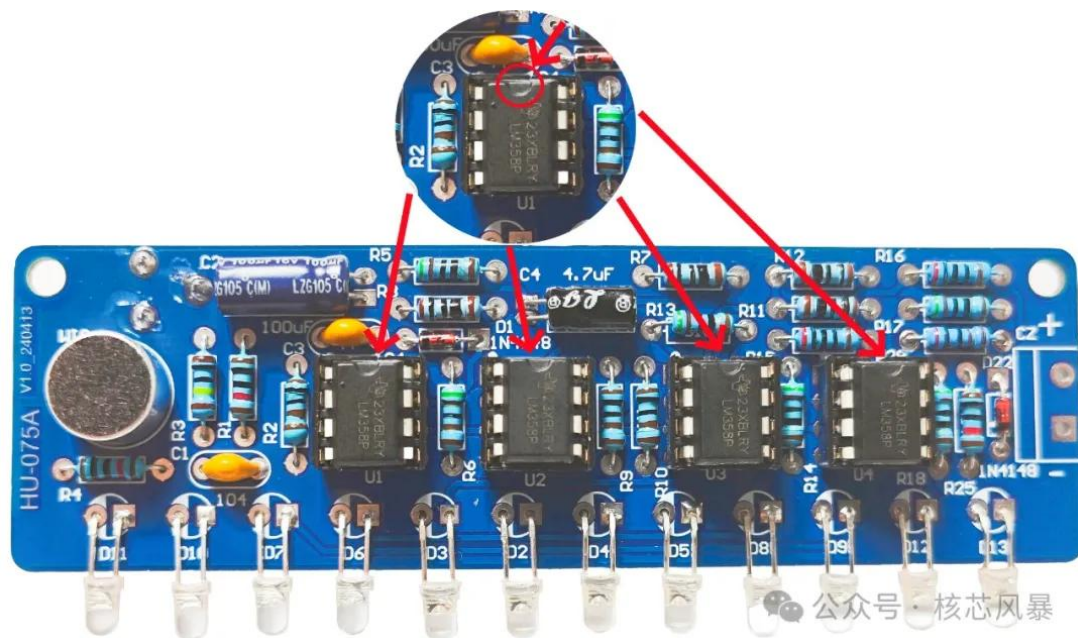
7. Solder microphone. (One side of the three horizontal lines is the negative pole)



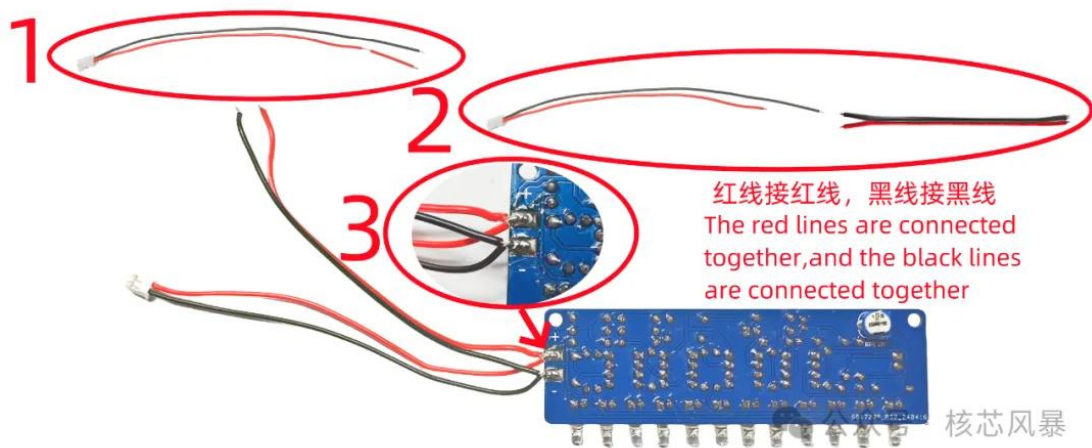
8. Solder 1M blue and white adjustable resistors .



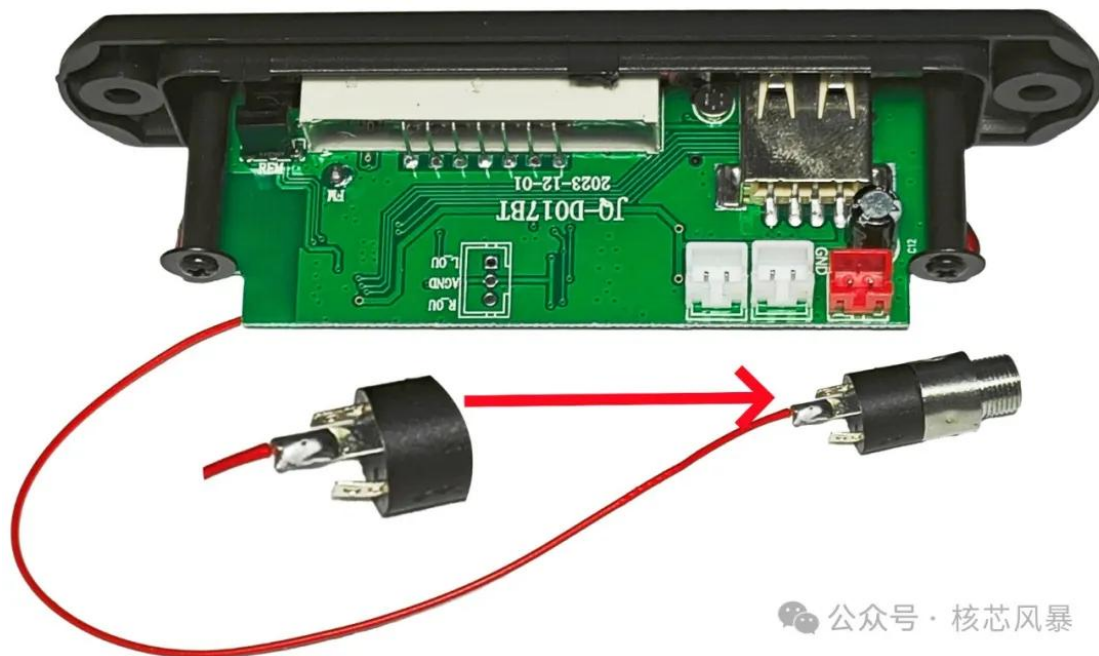
9. Insert LM358 into the IC socket. (The side with a notch faces the side with a notch on the IC socket)



10. Cut a small section of a single terminal wire, connect it with the red and black connecting wires, and connect the black and red wires together, and solder them onto the PCB.



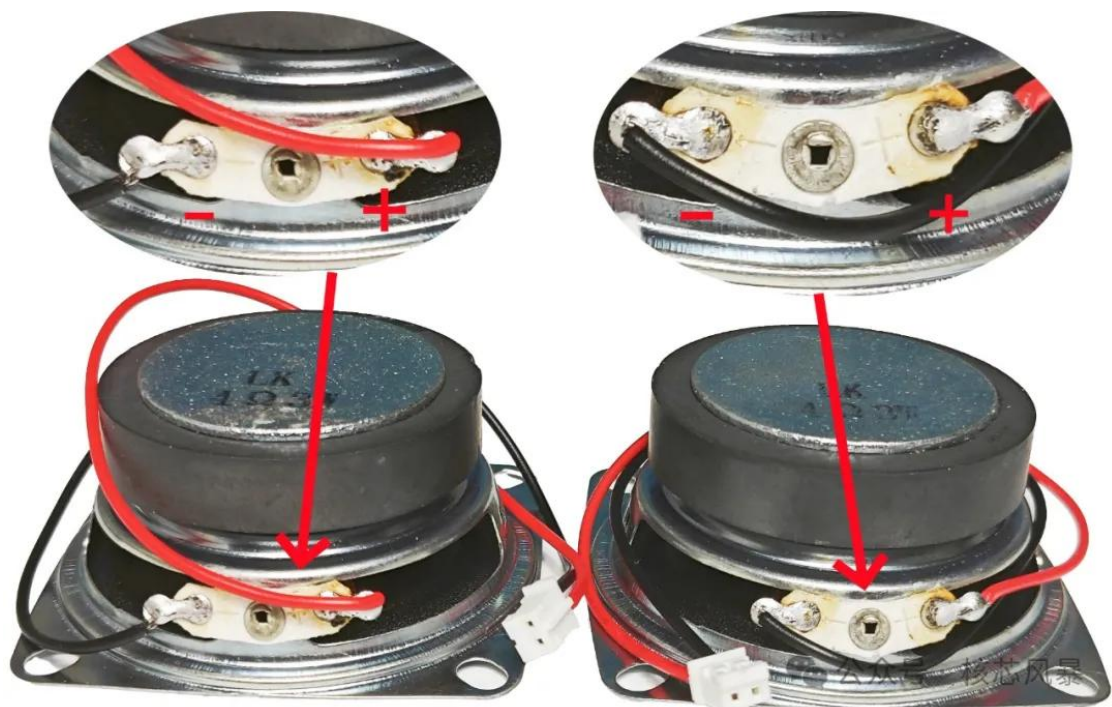
11. Solder the red connecting wire to the longest foot of the audio socket.



12. Fix the decoder onto the housing using M3 * 8 and M3 nuts, and install the screw cap.



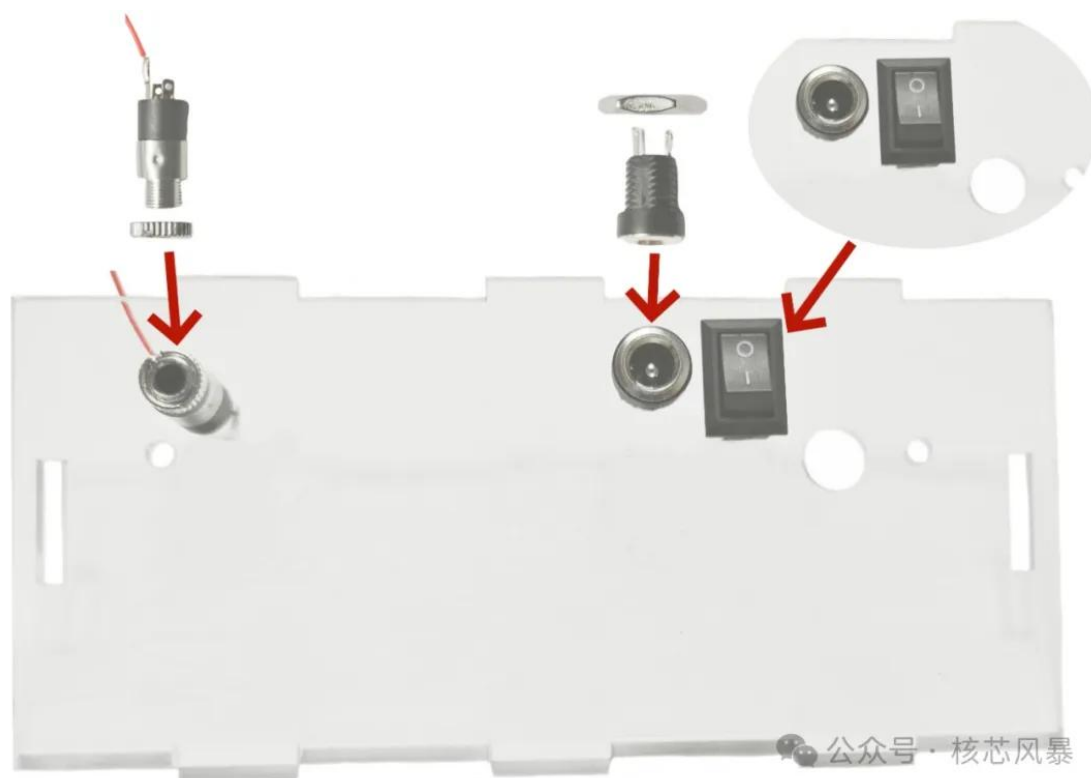
13. Solder the single terminal wire to the speaker. (Red positive, black negative)



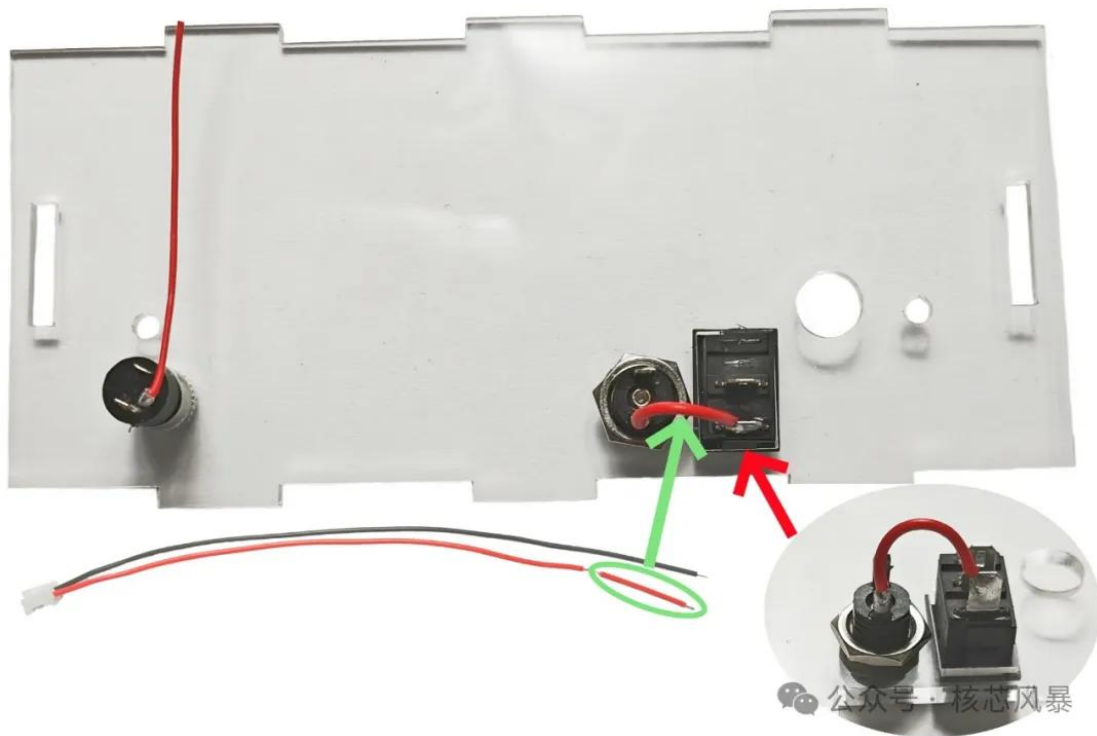
14. Secure the horn to the housing using M3 * 8 screws and M3 nuts.



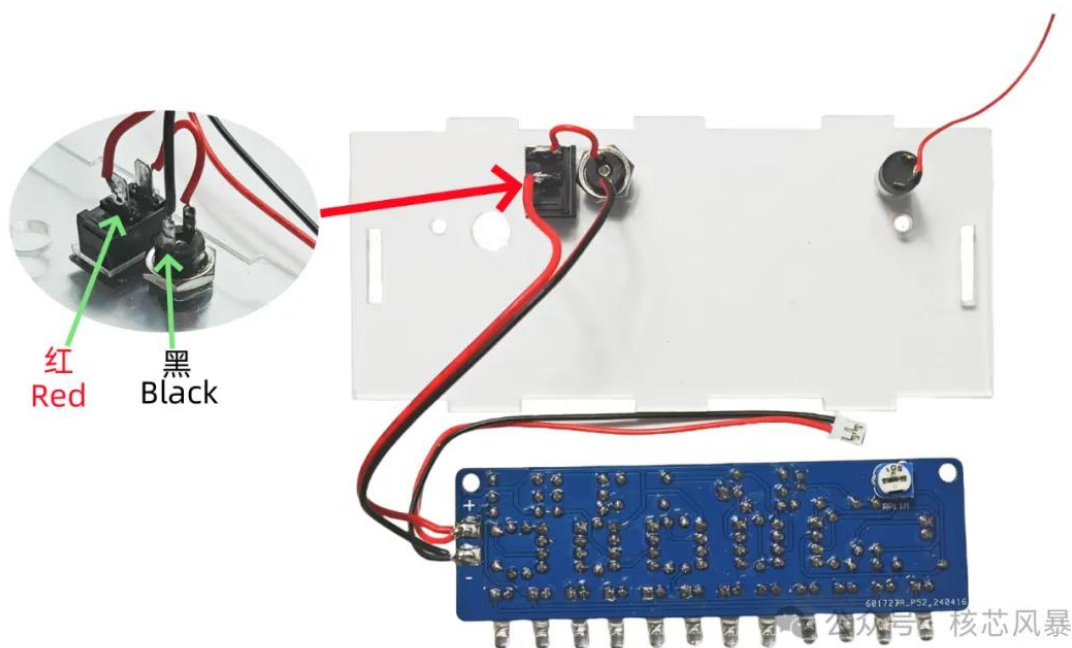
15. Install the audio socket, power interface, and rocker switch onto the casing.



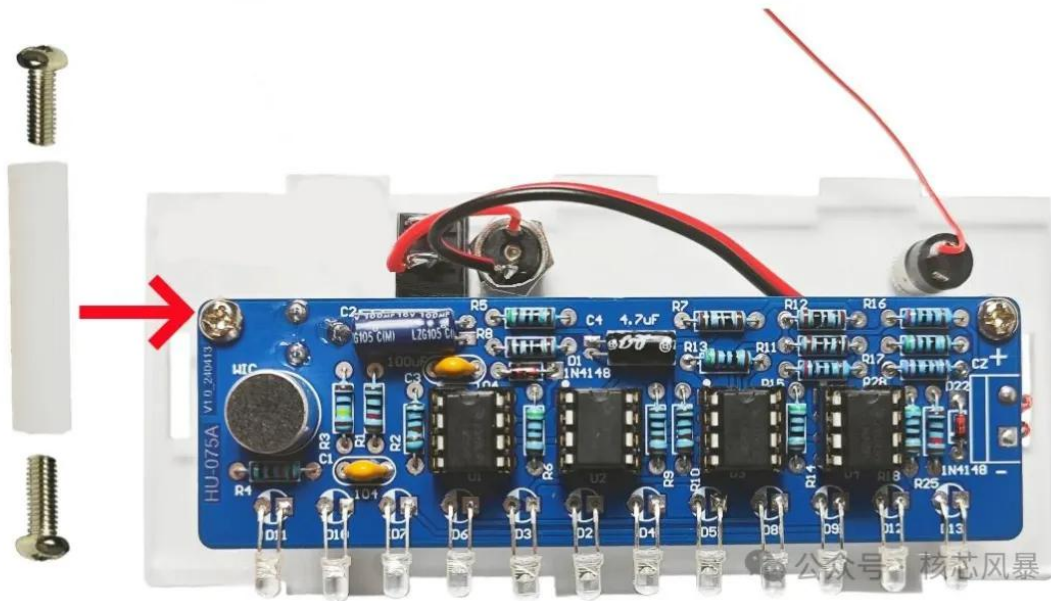
16. Connect the short pin of the power interface and the boat type switch together using the remaining section of the cable.



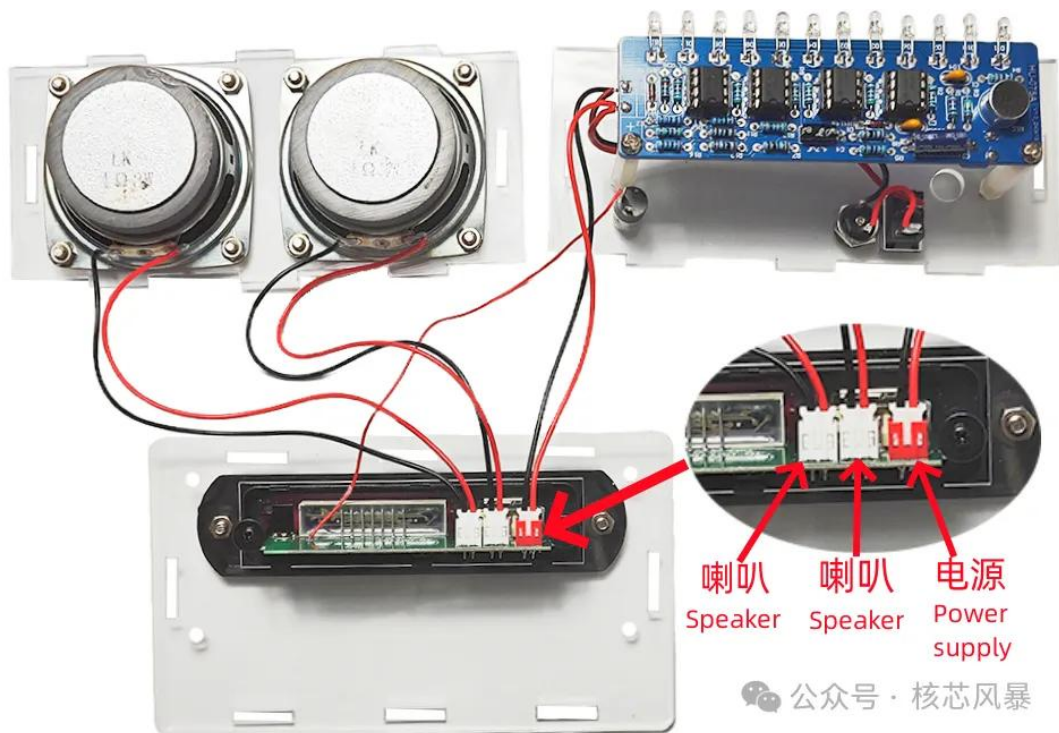
17. Weld the red wire to the ship type switch and the black wire to the long leg of the power interface.



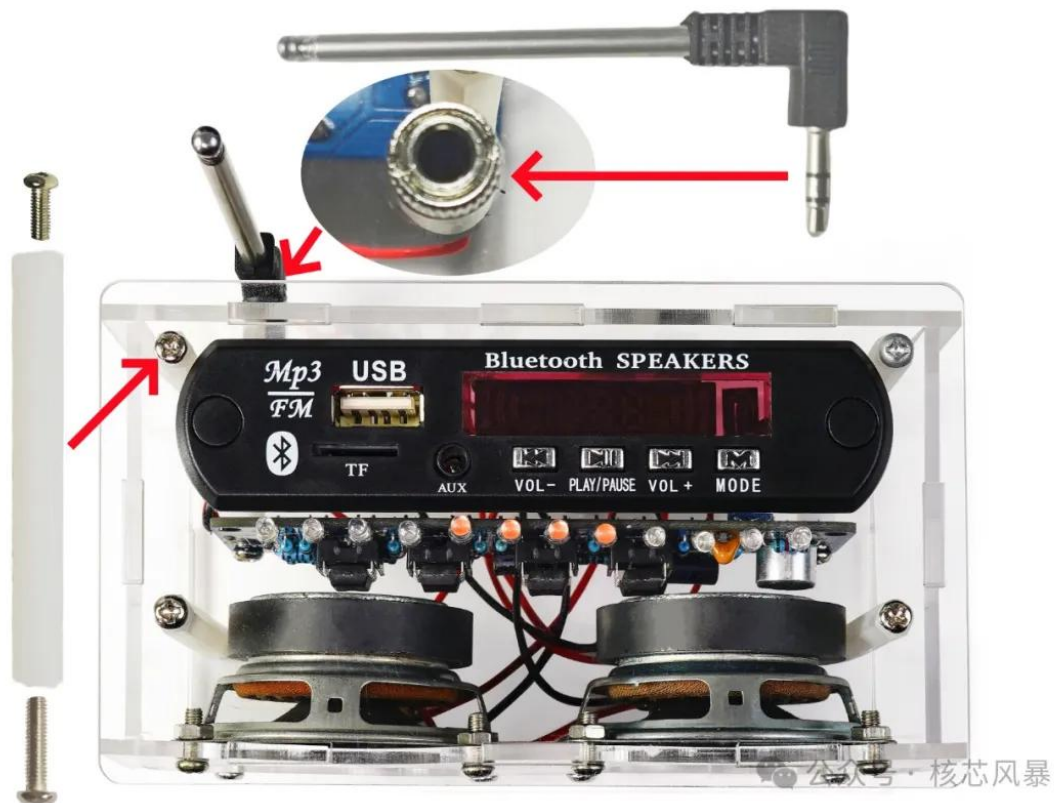
18. Secure the circuit board to the rear housing using M3 * 28 nylon posts and M3 * 8 screws.



19. Connect the single terminal wire of the speaker to the decoder L-L+ and R-R+, and connect the single terminal wire of the power interface to 5V.















20. Install the housing with M3 * 8 and M3 * 12 screws and M3 * 50 nylon posts, and plug in the radio antenna.



VII、Function Introduction



2、Remote Control Description

Remote Control Instructions					
	Button image	USB flash drive/card	Radio reception	Audio input	Bluetooth
		Power button			
		Bluetooth → USB drive → Memory card → Radio → Audio input			
		Mute	Mute	Mute	Mute
		Pause/Play	Automatic radio station storage	Pause/Play	Pause/Play
		Previous song	Previous radio station	...	Previous song
		Next song	Next radio station		Next song
		Nature/Pop/Jazz/Rock/Bass/Classical/Country	Nature/Pop/Jazz/Rock/Bass/Classical/Country
		volume down	volume down	volume down	volume down
		Increase volume	Increase volume	Increase volume	Increase volume
		Repeat playback mode
		Switch USB drive → Card	Automatic radio station storage

3、(1) VOL- button (previous song/volume decrease): In MP3 mode, VOL- short press to previous song, long press to volume decrease; Short press in FM mode to increase the station number by one; Short press to indicate the previous song in Bluetooth function, long press to indicate a decrease in volume.

(2) PLAY/PAUSE button (play/pause): Short press PLAY/PAUSE in MP3 mode to play/pause; Short press in FM mode to automatically collect and coexist with the station; Short press to play/pause in Bluetooth function.

(3) VOL+ button (next song/volume increase): In MP3 mode, VOL+ short press to next song, long press to increase volume; Short press in FM mode to lower the station number by one; Short press in Bluetooth function to select the next Bluetooth song, long press to select the volume to decrease.

(4) MODE button: Switch between FM/audio input/Bluetooth/USB/TF functions in sequence.

4、Recording Function Description

(1) 、 When recording, it is necessary to connect a storage device, such as a USB flash drive or TF card.

(2) Press and hold the MODE button to start recording, and press and hold the MODE button again to exit the recording function and play.

(3) Long press the MODE button to start recording, then long press the MODE button again to exit the recording function and start playing.

(4) The recording file will be stored in the last song of USB or TF mode.

5、 Use USB or TF card to play music, and the music storage format must be MP3, WMA, WAV, FLAC, or APE.

6. LED metronome adjustment: clockwise adjustment of the potentiometer increases sensitivity, counterclockwise adjustment of the potentiometer reduces sensitivity.