

HU-017B 升级款RDA5807收音机制作套件

Upgraded RDA5807 Radio Production Kit

I、功能 Function

- 1、当收音机没有储存电台时会自动搜索周围电台并进行储存（最多储存30个电台，超出的无法储存）

When the radio does not store any stations, it will automatically search for surrounding stations and store them(Up to 30 radio stations can be stored, exceeding this limit cannot be stored)

- 2、列表管理电台

List management radio station

- 3、调节收音机音量

Adjust the volume of the radio

- 4、修改搜索频道阈值

Modify search channel threshold

- 5、可查看电台信号强度

Can view radio signal strength

- 6、具有省电模式

Equipped with power-saving mode

II、特性 Characteristic

- 1、升级款RDA5807收音机功能更加丰富，焊接更加简单

The upgraded RDA5807 radio has richer functions and simpler welding

- 2、搭配RDA5807收音模块，具备噪音消除、低音增强、灵敏度高、噪音小、抗干扰能力强等优点

Paired with RDA5807 radio module, it has the advantages of noise cancellation, bass enhancement, high sensitivity, low noise, and strong anti-interference ability

- 3、有15个声音档位搭配电位器调节，能调节到令你满意的声音

Equipped with potentiometer adjustment and 15 volume levels, it can be adjusted to achieve a sound that satisfies you

- 4、数码管显示，更加方便查看电台频道和电台信号强度

Digital tube display, more convenient for viewing radio channels and radio signal strength

- 5、带有断电记忆，自动搜台、存台功能

Equipped with power-off memory, automatic station search and storage function

- 6、带有省电模式，让收音机更加省电

Equipped with power-saving mode, making the radio more energy-efficient

- 7、供电方式：3节7号电池或者USB供电（二选一）

Power supply method: 3 No. 7 batteries or USB power supply (choose one)

8、接收电台频段：87-108MHZ

Receiving radio frequency band: 87-108MHz

9、最大工作电流：约250mA（在声音调到最大的情况下）

Maximum operating current: approximately 250mA (with the sound set to maximum)

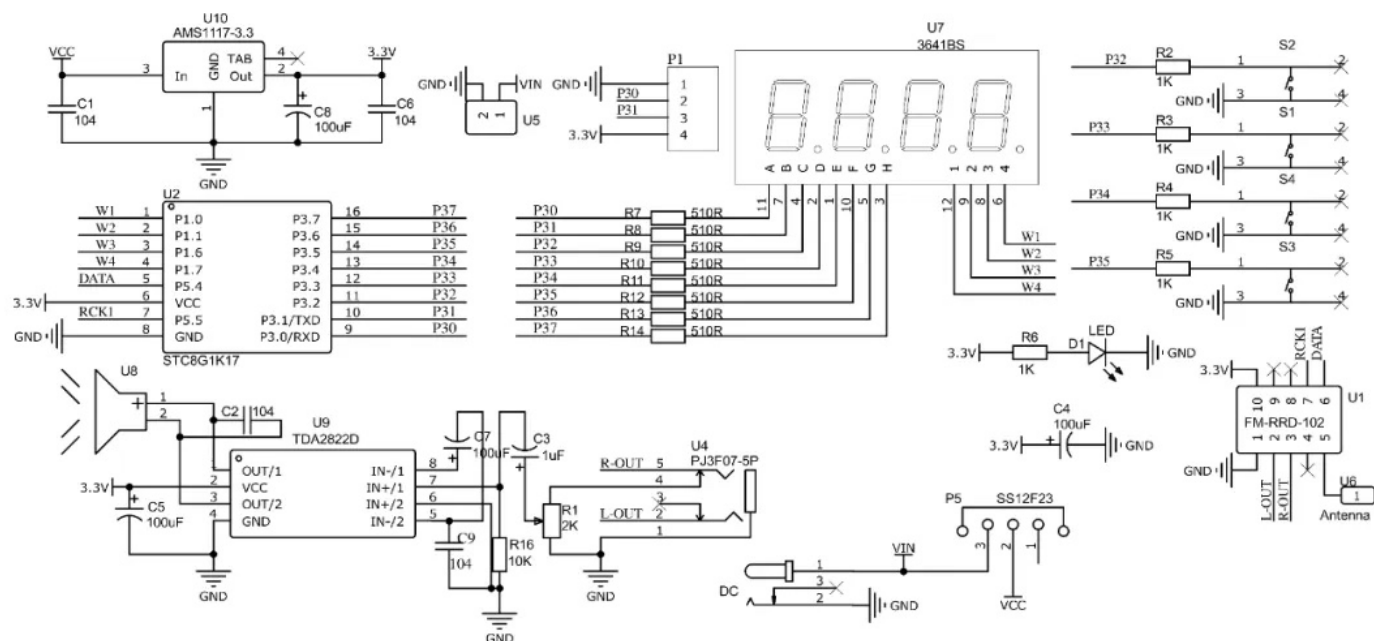
10、PCB长度：95.5x59mm

PCB length: 95.5x59mm

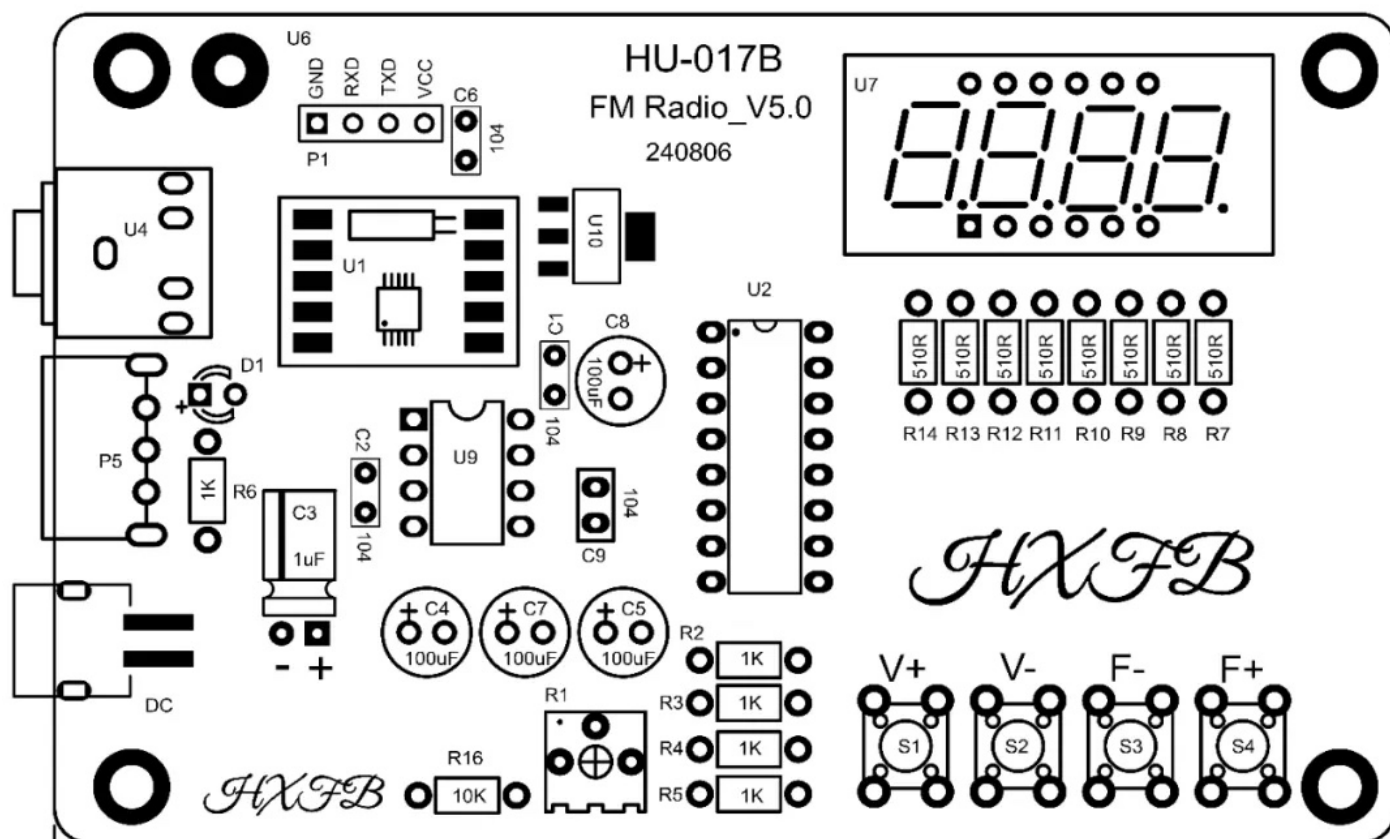
III、元件清单 BOM

序号 /Number	名称	Name	标号/Lable	数量 /Number	备注 /Remarks
1	数码管	Digital tube	U7	1	/
2	直插电阻 10K	Direct insertion resistor 10K	R16	1	/
3	直插电阻 1K	Direct insertion resistor 1K	R2、R3、R4、R5、R6	5	/
4	直插电阻 510	Direct insertion resistor 510K	R7、R8、R9、R10、R11、R12、R13、R14	8	/
5	拨动开关	Toggle Switch	P5	1	/
6	USB 插座	USB socket	DC	1	/
7	收音天线	Radio antenna	U6	1	/
8	M2 螺丝	M2 screw	/	1	/
9	M2 螺母	M2 nut	/	1	/
10	音频插座	Audio jack	U4	1	/
11	6*6*12.5 按键	6*6*12.5 key	S1、S2、S3、S4	4	/
12	按键帽	Key cap	S1、S2、S3、S4	4	/
13	STC8G1K17	STC8G1K17	U2	1	/
14	TDA2822	TDA2822	U9	1	/
15	电解电容 100uF	Electrolytic capacitor 100uF	C4、C5、C7、C8	4	/
16	电解电容 1uF	Electrolytic capacitor 1uF	C3	1	/
17	喇叭	Speaker	U8	1	/
18	RDA5807 模块	RDA5807 module	U1	1	/
19	电位器 200K	Potentiometer 200K	R1	1	/
20	瓷片电容 104	Ceramic capacitor 104	C1、C2、C6、C9	4	/
21	红色发光二极管	Red led	D1	1	/
22	AMS1117-3.3V	AMS1117-3.3V	U10	1	/
23	8P IC 座	8P IC socket	U9	1	/
24	16P IC 座	8P IC socket	U2	1	/
25	4P 红黑连接线	4P red and black wire	/	1	
26	电池弹片	Battery shrapnel	/	1	选配 Optional
27	电源线	Power line	/	1	/
28	PCB	PCB	/	1	/
29	说明书	Instructions	/	1	/
30	外壳	Housing	/	1	选配 Optional
31	螺丝包	Screw pack	/	1	选配 Optional

IV、电路原理 Schematic



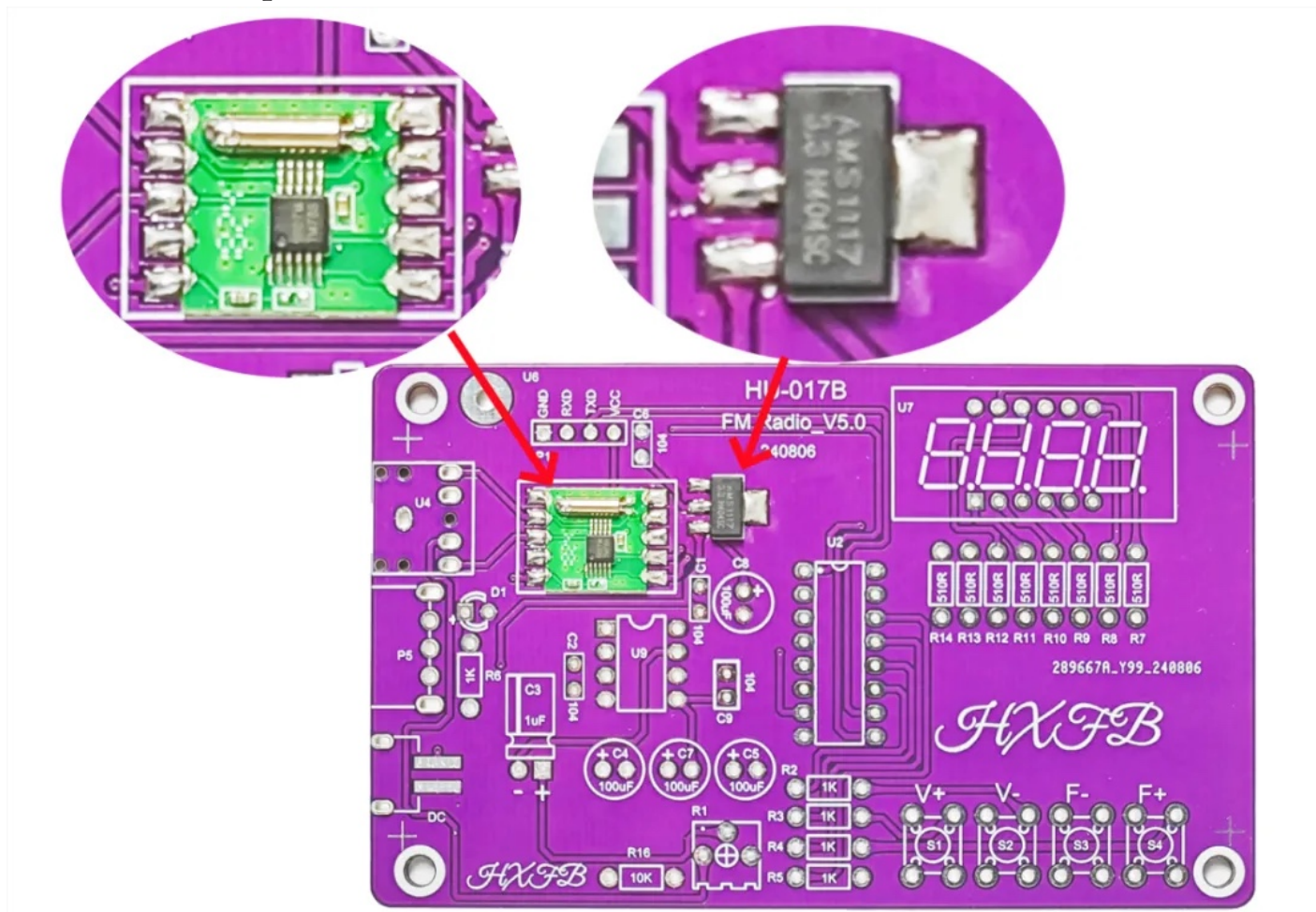
V、元件分布图Component map



VI、焊接教程 Welding tutorial

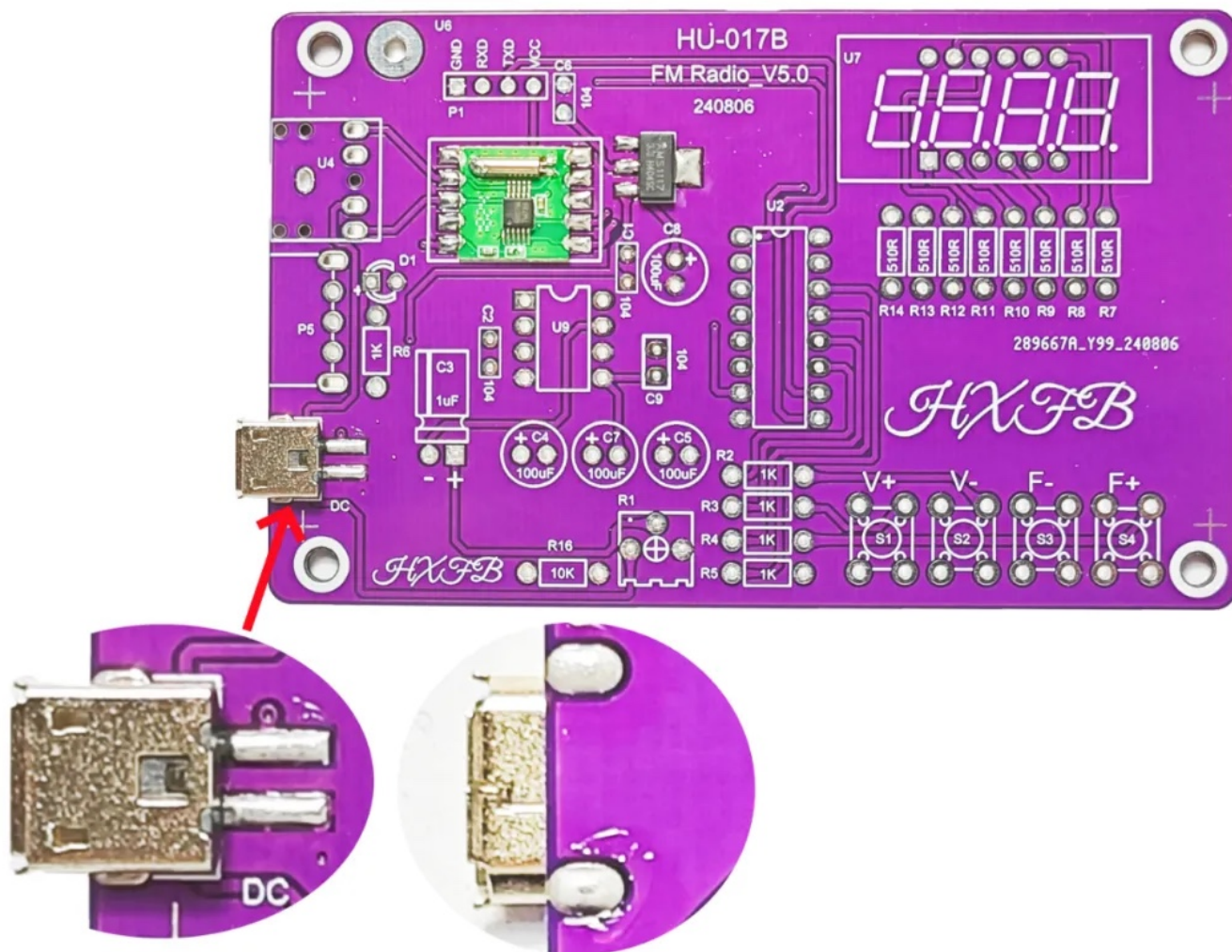
1、焊接AMS1117芯片和RDA5807收音机模块。

Solder AM1117 chip and RDA5807 radio module.

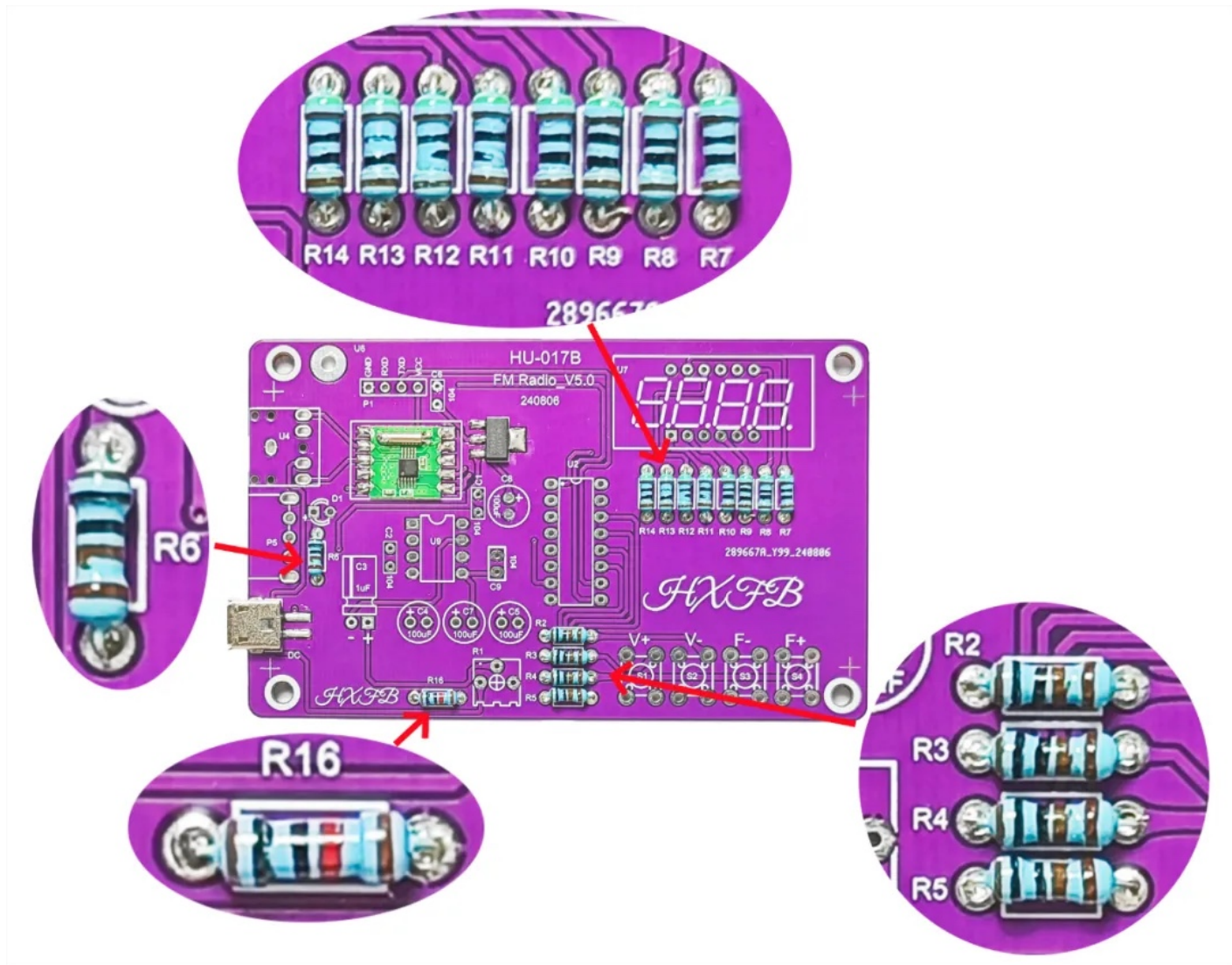


2、焊接USB插座。

Solder USB socket.

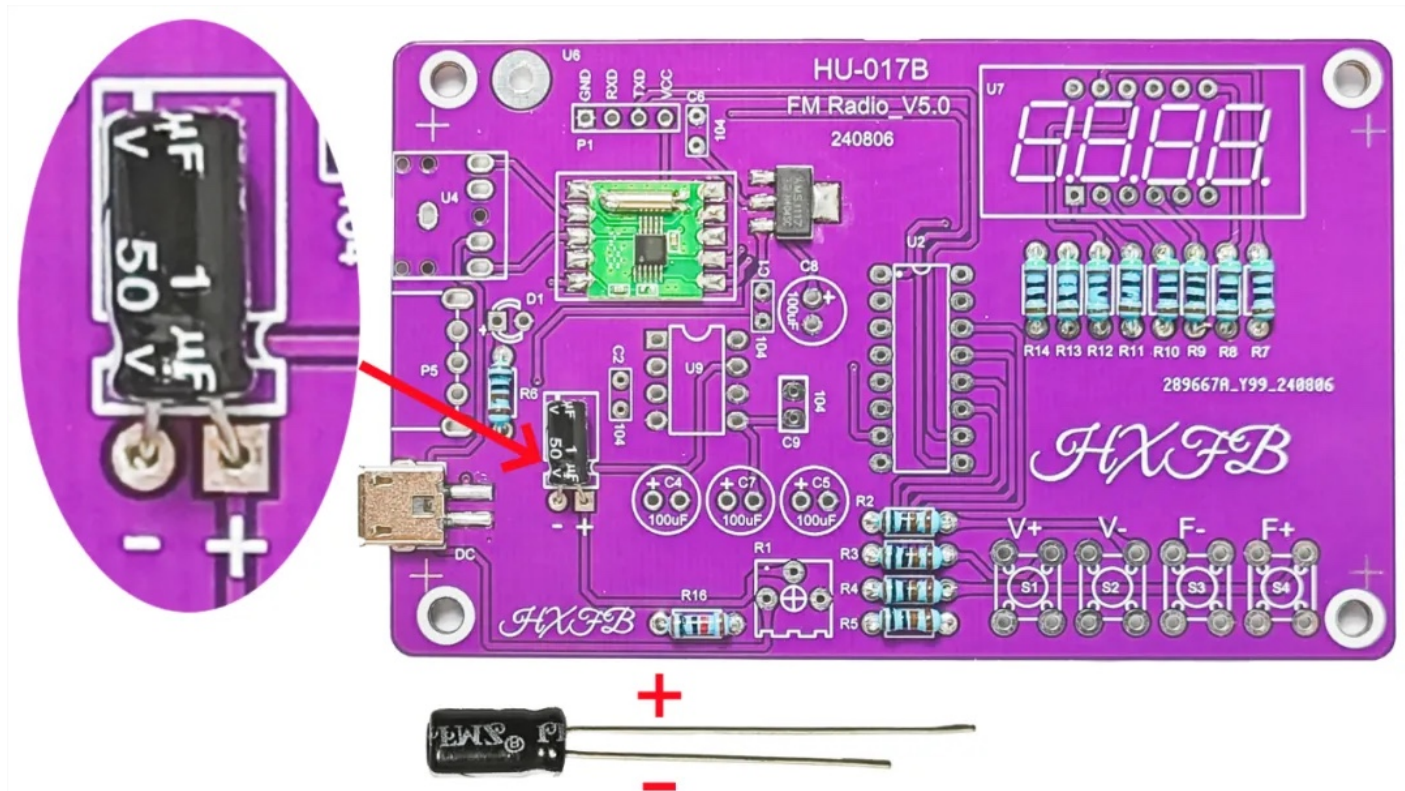


3、焊接510Ω、1K和10K电阻。
Solder 510 Ω, 1K, and 10K resistors.



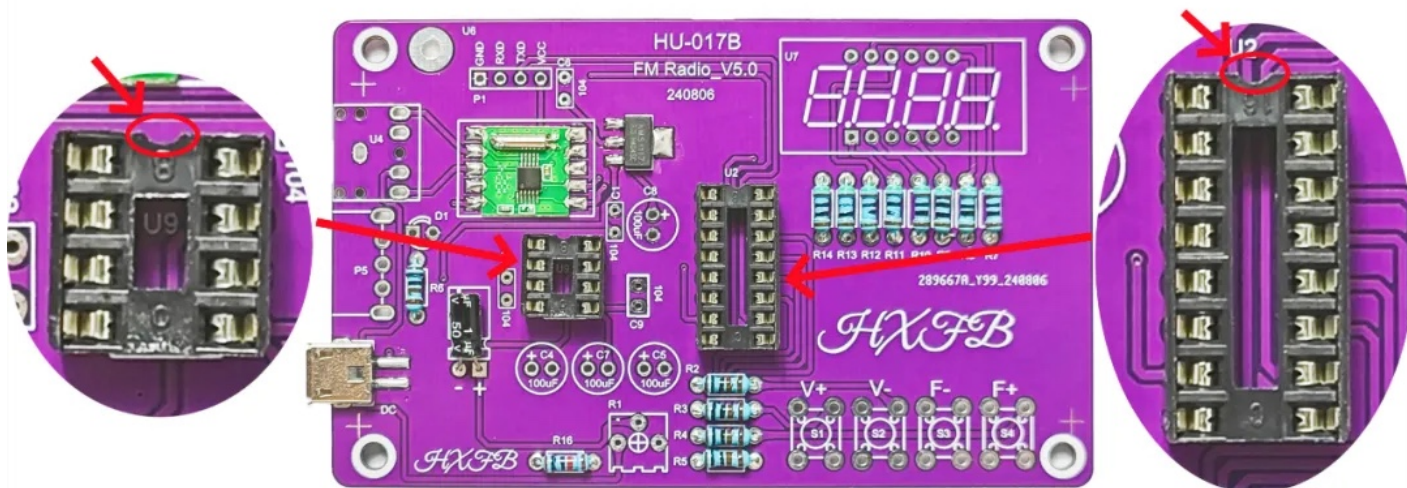
4、焊接1uF电解电容并折弯。(引脚长+短-)

Weld 1uF electrolytic capacitor and bend it.(Long pin+Short pin -)



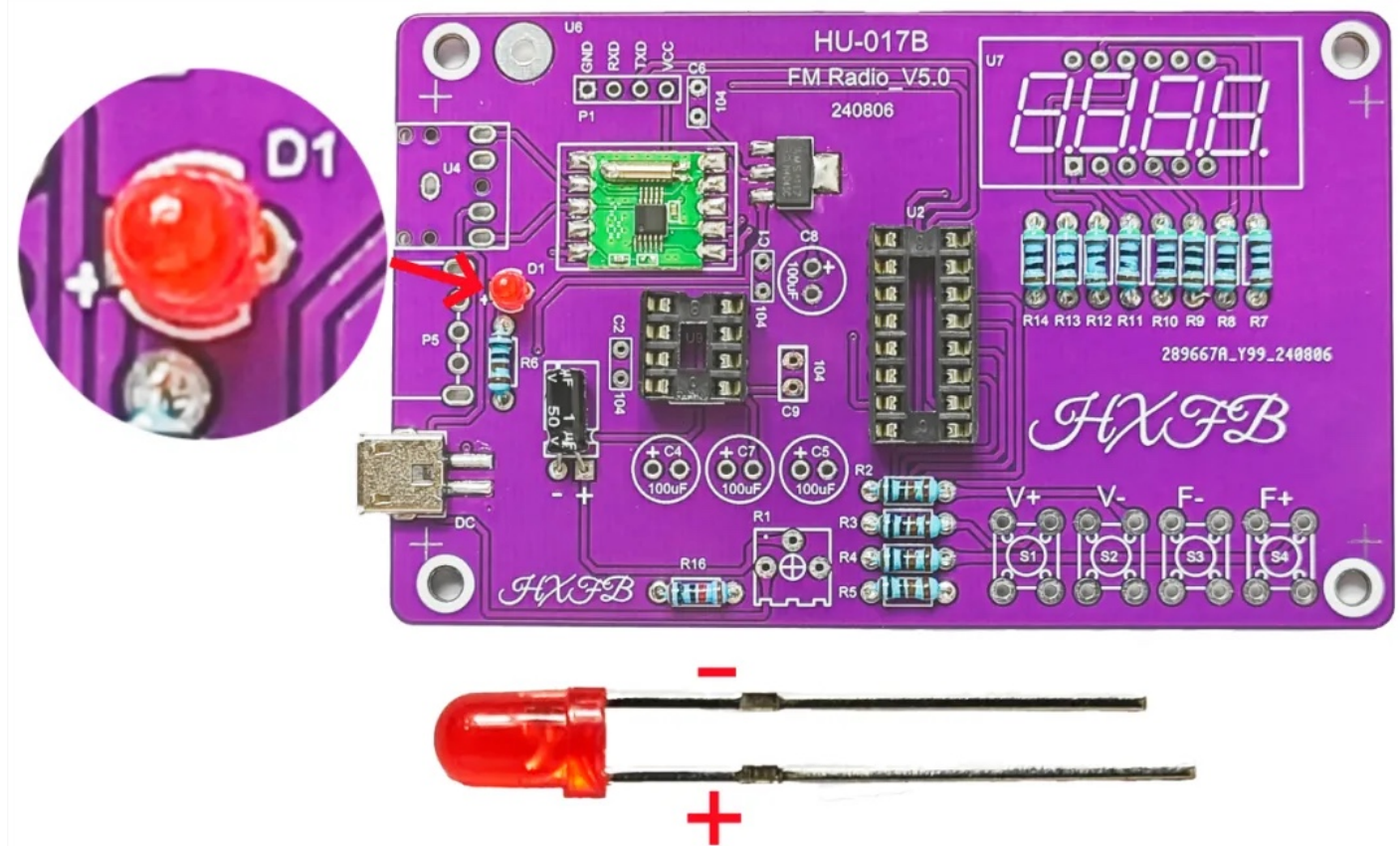
5、焊接IC座8P和16P。(IC座有缺口的一边对着丝印有缺口的一边)

Solder IC sockets 8P and 16P.(The side of the IC socket with a gap faces the side with a gap in the silk screen)



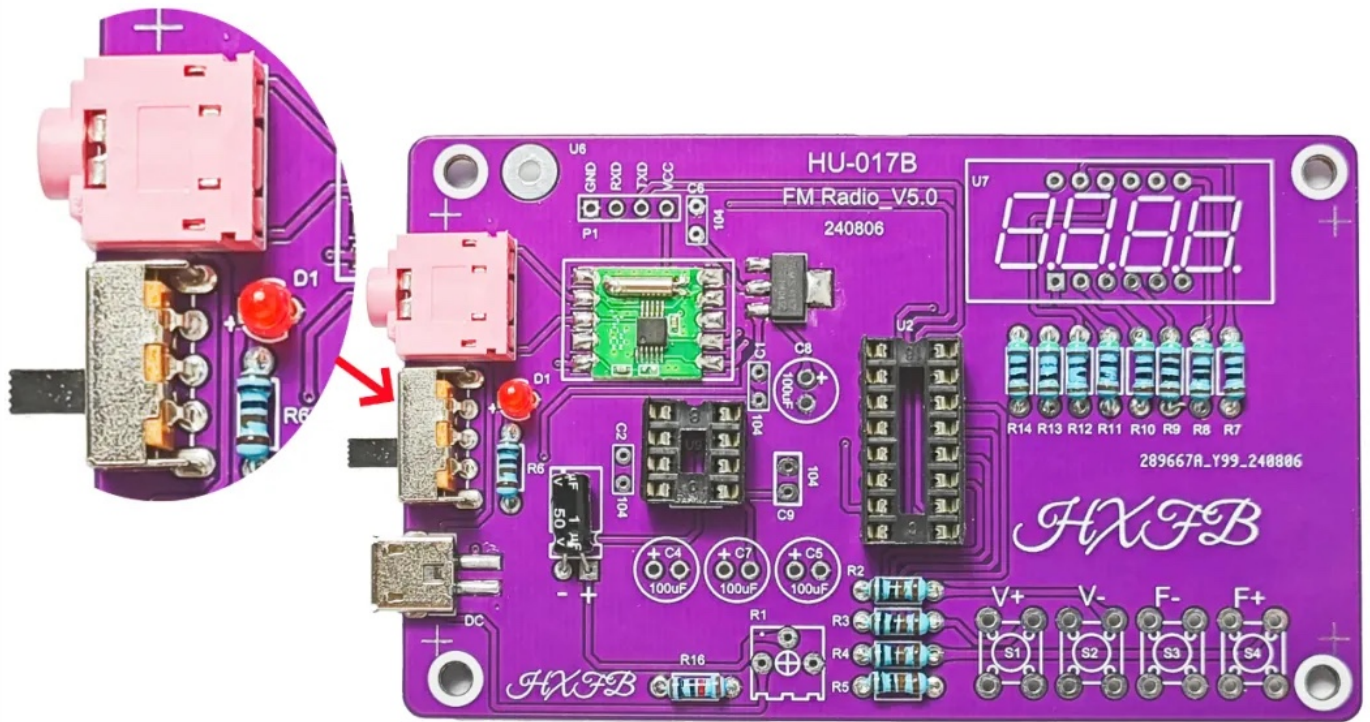
6、焊接红色发光二极管。(引脚长+短-)

Solder red led.(Long pin+Short pin -)



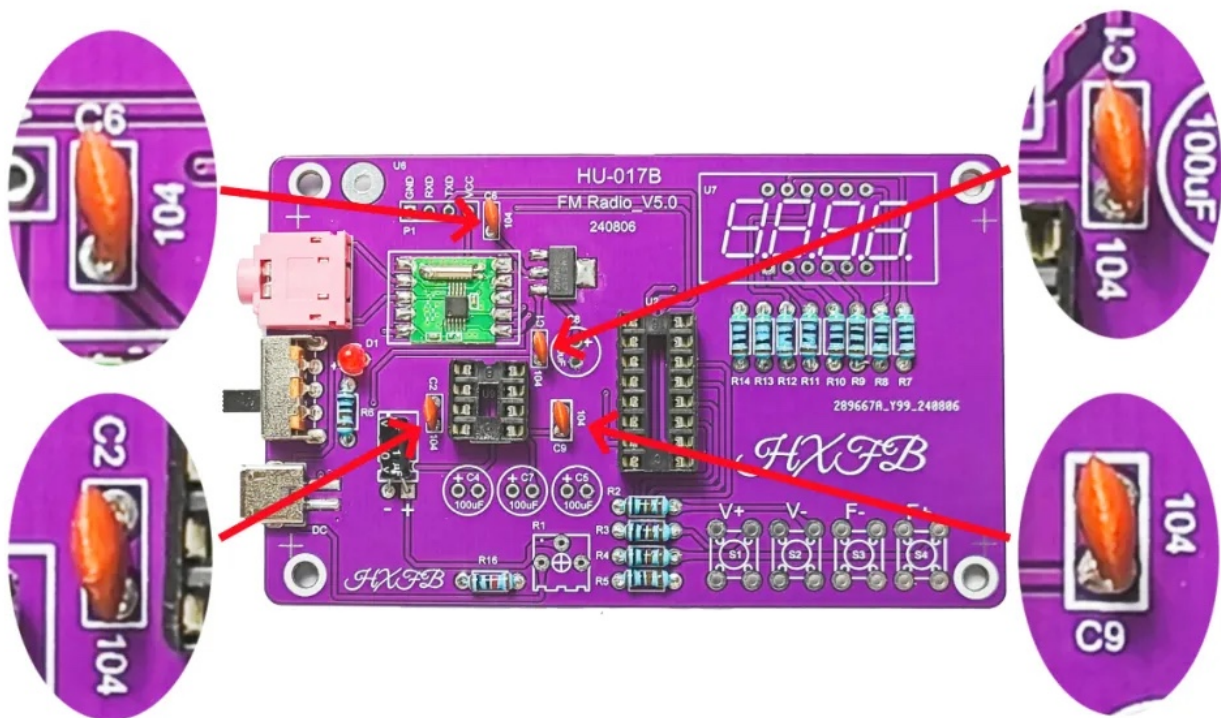
7、焊接拨动开关和音频插座。

Solder the toggle switch and audio jack.



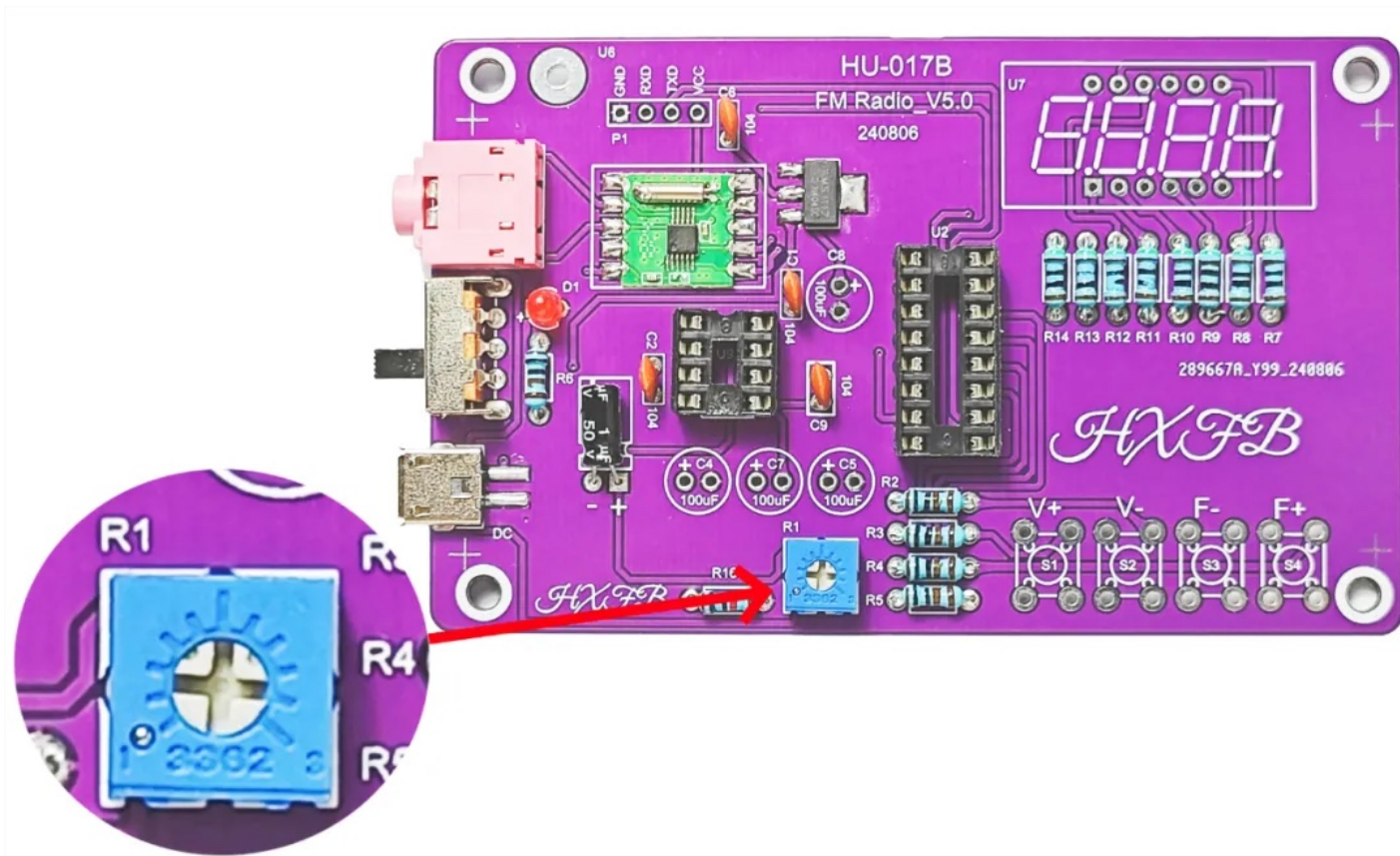
8、焊接104瓷片电容。

Solder 104 ceramic capacitors.



9、焊接200K电位器。

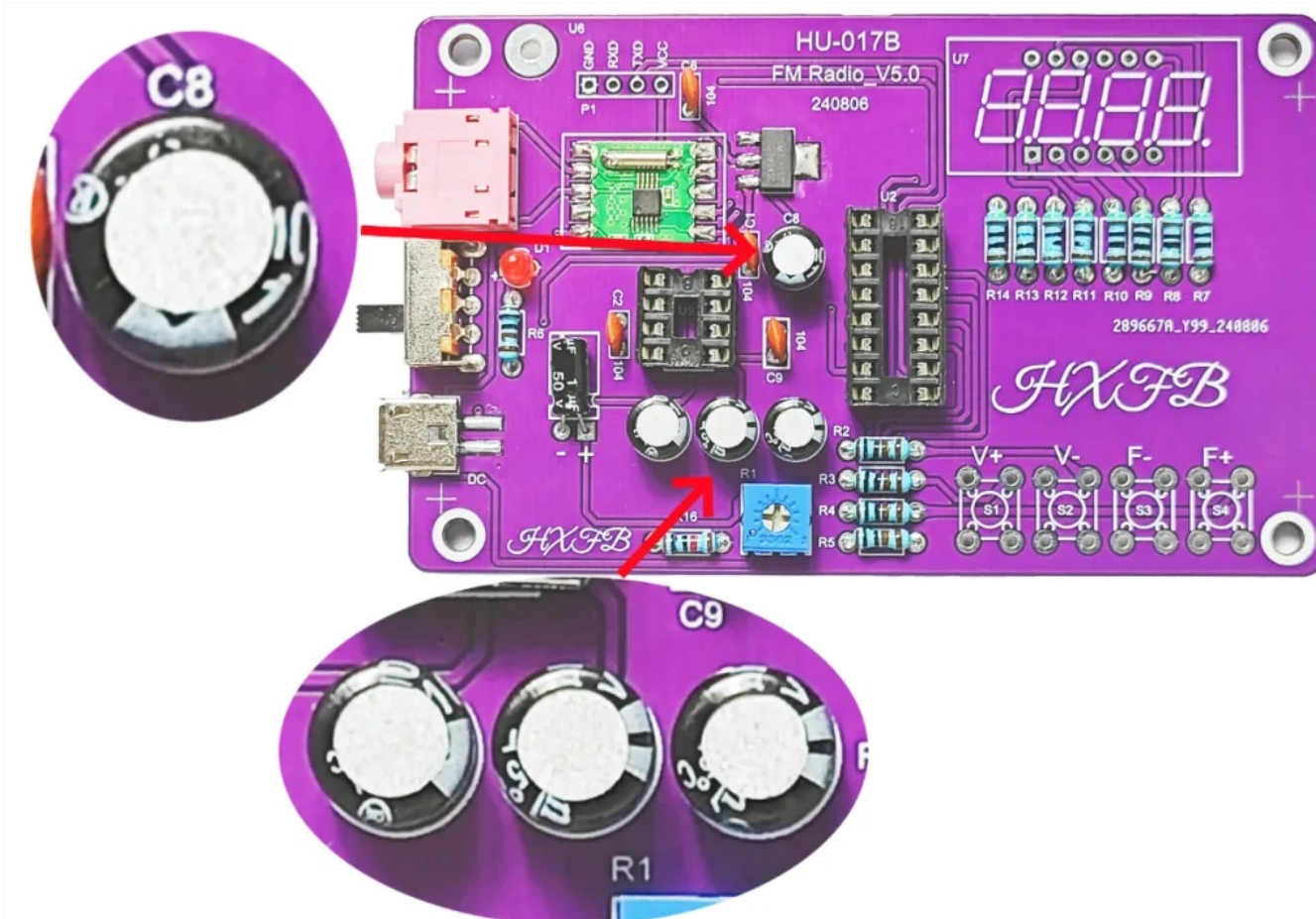
Solder 200K potentiometer.



10、焊接100uF电解电容。（引脚长+短-）

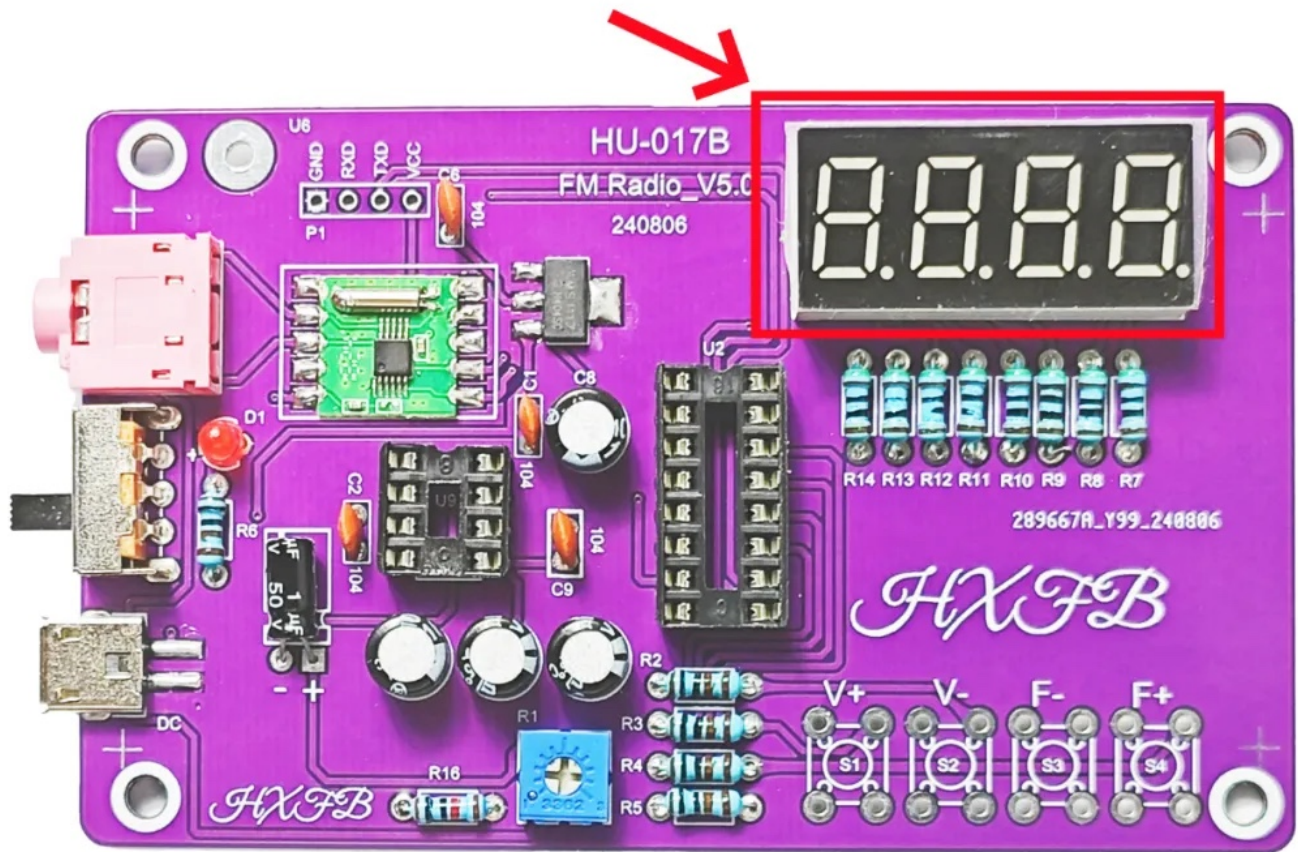
Solder 100uF electrolytic capacitors.

(Long pin+Short pin -)



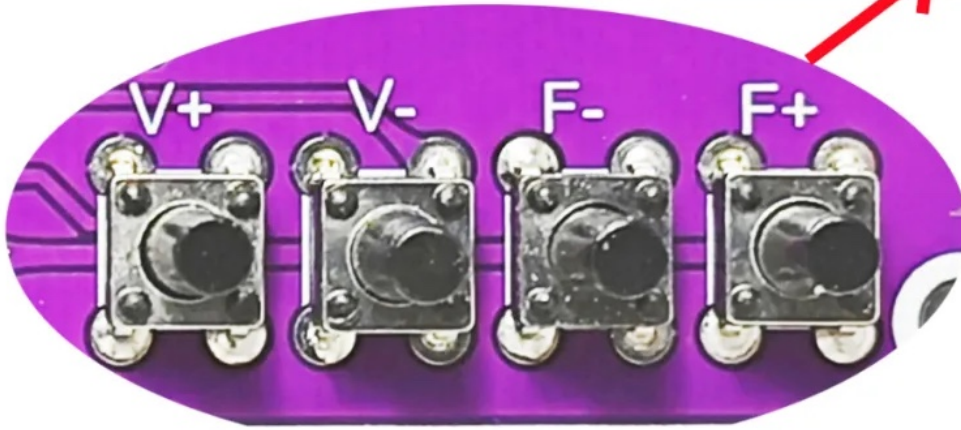
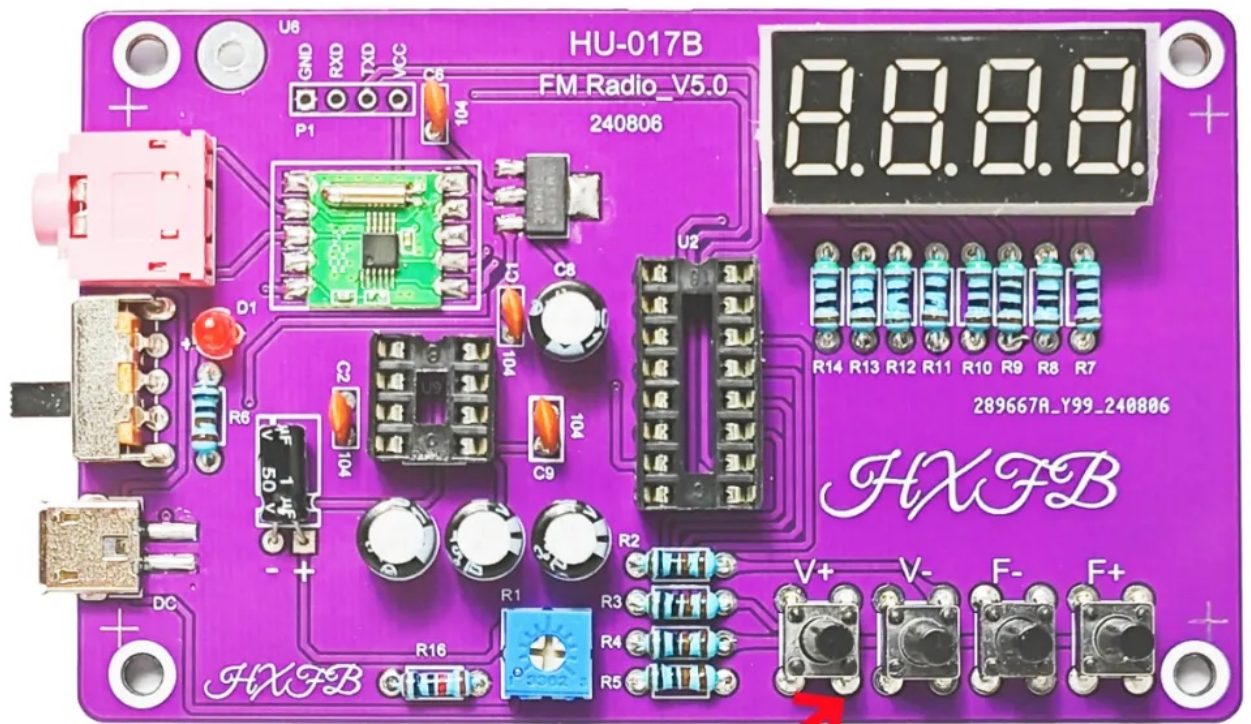
11、焊接数码管。（注意方向）

Solder digital tubes. (Pay attention to the direction)



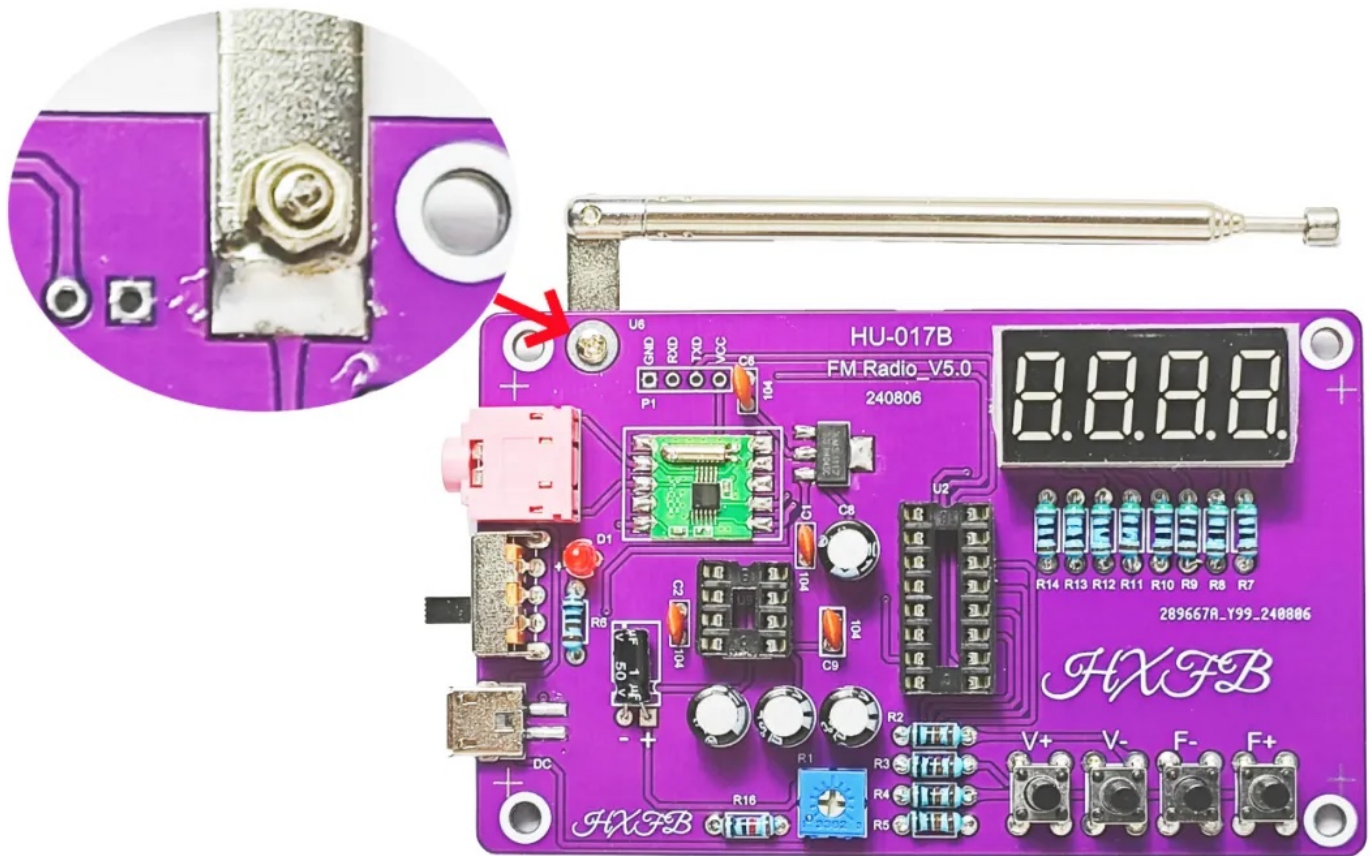
12、焊接6*6*12.5按键。

Solder 6*6*12.5 key.

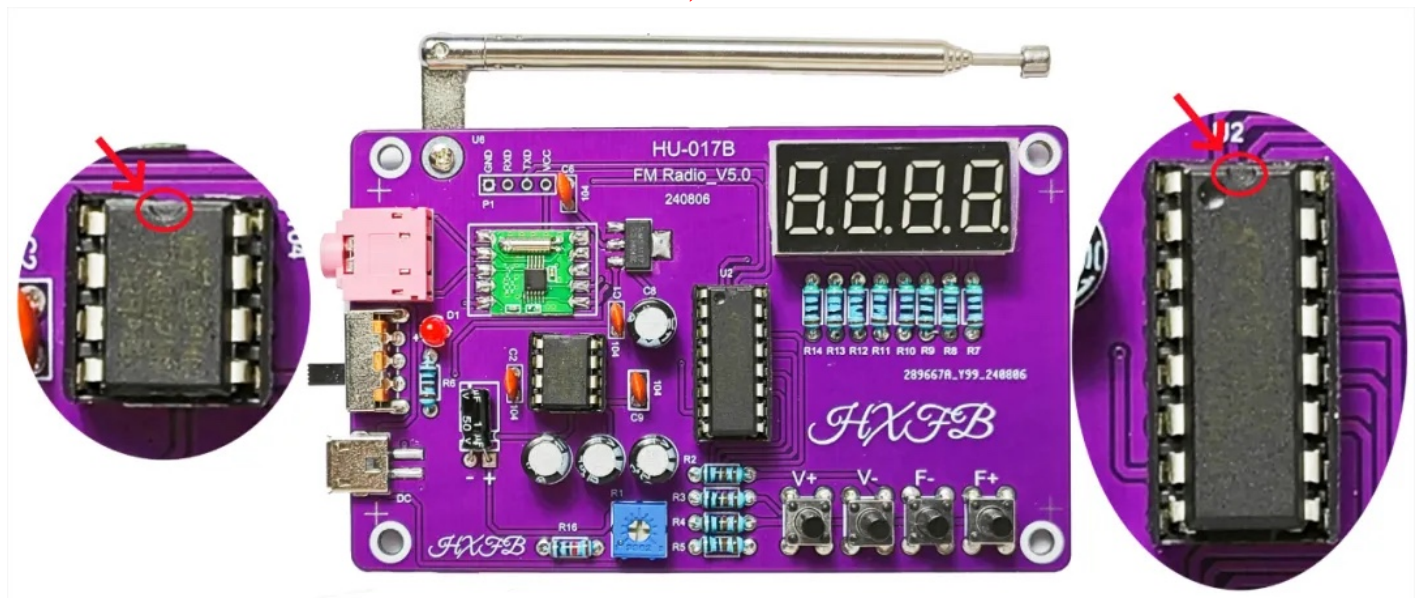


13、用M2螺丝和螺母固定收音天线，并焊接。

Secure the radio antenna with M2 screws and nuts, and weld them together.



14、将STC8G1K17和TDA2822插到对应IC座上。（芯片有缺口的一边对着IC座有缺口的一边）
 Insert STC8G1K17 and TDA2822 into the corresponding IC socket. (The side of the chip with a notch faces the side of the IC socket with a notch)



15、将电池弹片插入到外壳上对应的位置。
 Insert the battery shrapnel into the corresponding position on the casing.

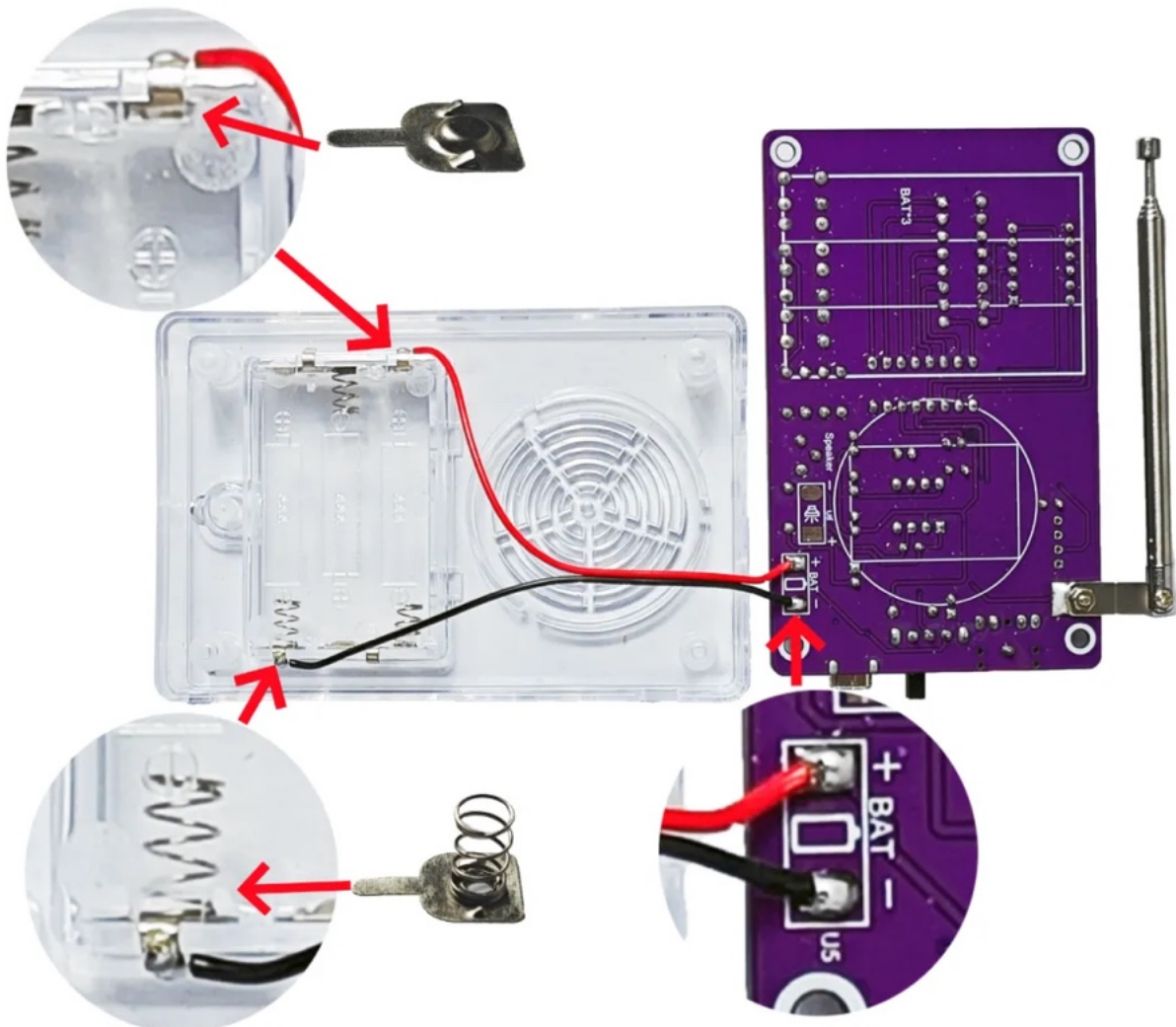
凸起的电池弹片对应外壳+极
The protruding battery shrapnel
corresponds to the shell+pole



带有弹簧的电池弹片对应外壳-极
The battery spring with spring
corresponds to the shell - pole

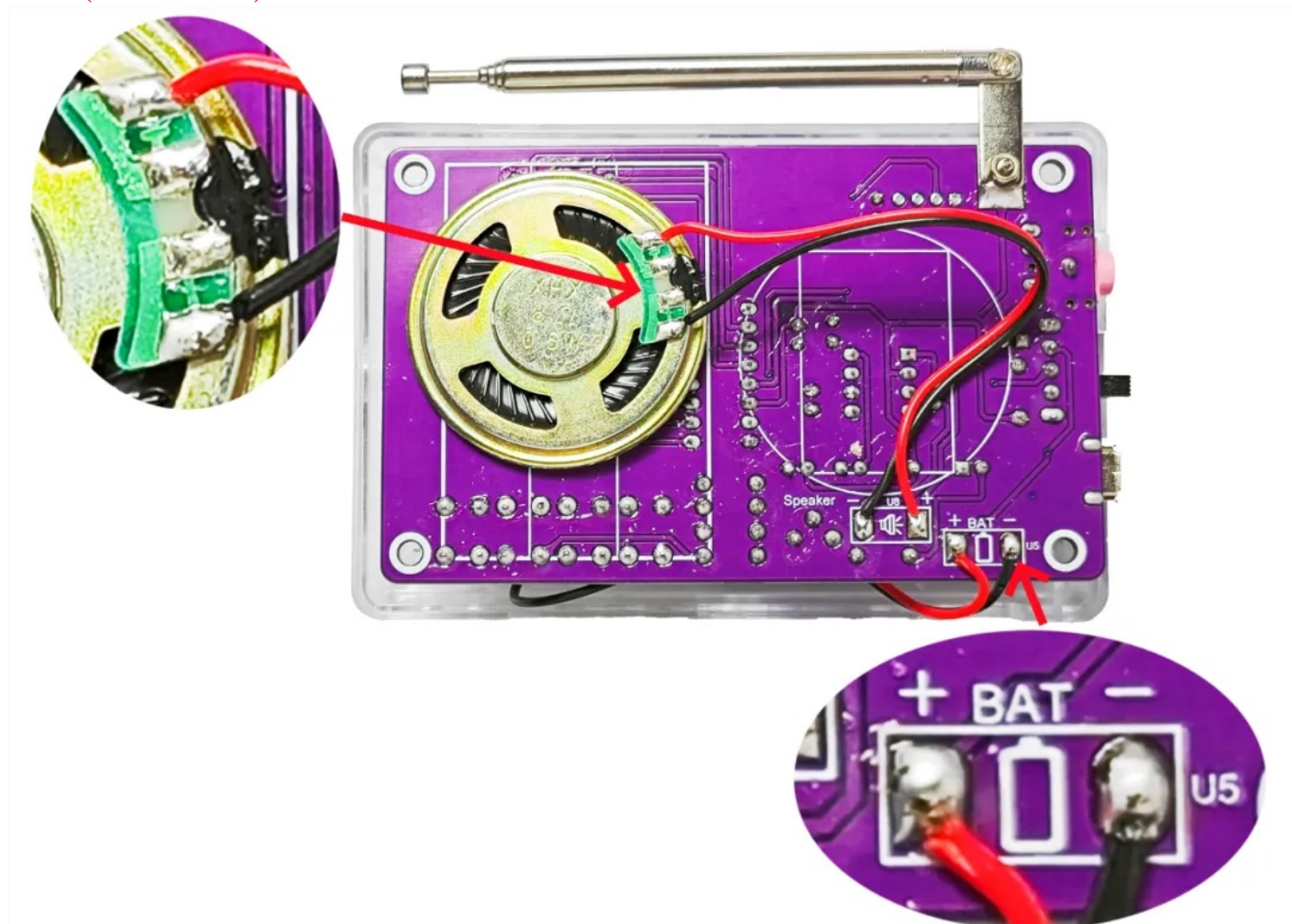
16、将红黑连接线一端焊到短电池弹片上，另一端焊到电路板上。（红+黑-）

Solder one end of the red and black connecting wire to the short battery spring and the other end to the circuit board. (Red+Black -)



17、将红黑连接线一端焊到喇叭上，另一端焊到电路板上。（红+黑-）

Solder one end of the red and black connecting wire to the horn and the other end to the PCB. (Red+Black -)



18、将喇叭装进卡槽中，装好外壳并用自攻螺丝进行固定。

Insert the speaker into the slot, install the casing, and secure it with self tapping screws.



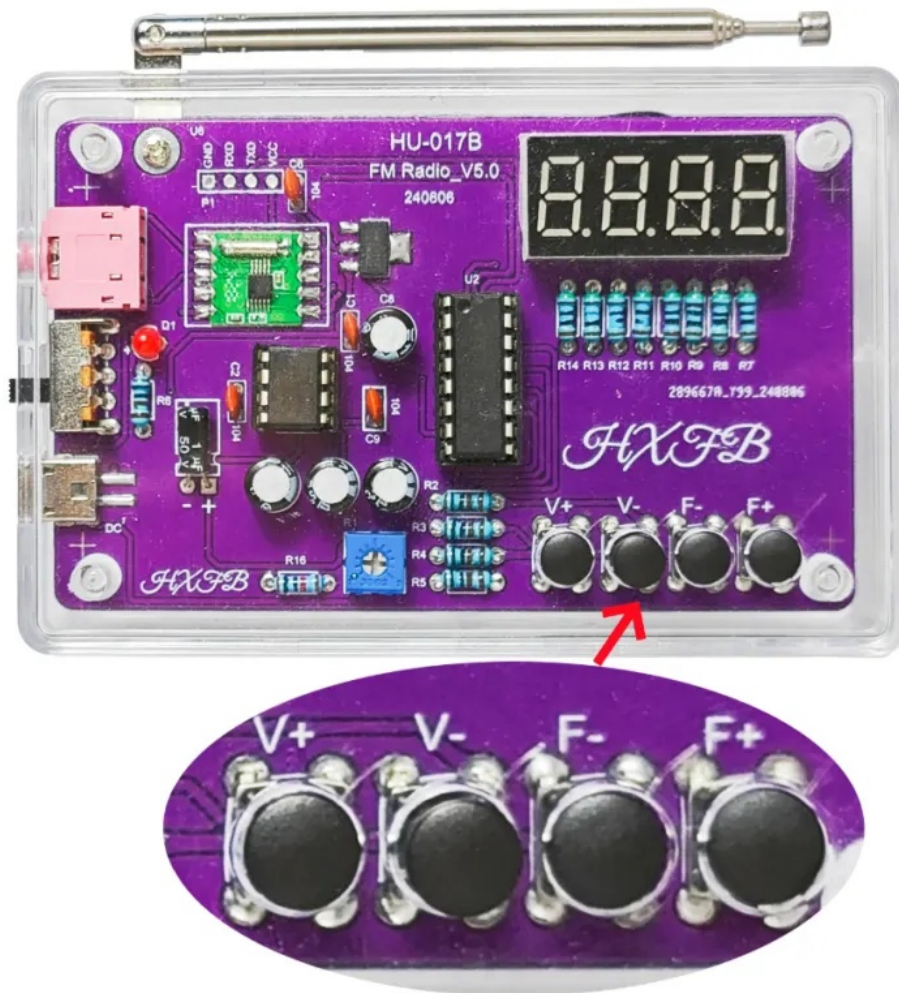
19、装好电池后装上电池盖，并用自攻螺丝进行固定。

After installing the battery, attach the battery cover and secure it with self tapping screws.



20、装上按键帽。

Install the key cap.



VII、使用说明 Instructions for use

1、接口说明 Interface Description



注意：USB接口不能和电池同时通电，需要二选一，否则收音机可能损坏，装外壳前需要先调节电位器将声音调节到自己满意的程度。

Attention: The USB interface cannot be powered on at the same time as the battery. You need to

choose one or the other, otherwise the radio may be damaged.Before installing the casing,it is necessary to adjust the potentiometer to adjust the sound to a level that satisfies oneself.

2、操作说明 Operating instructions

主界面（不进行设置默认只显示频道）			
功能	界面显示/ 状态	操作	说明
加音量	当前音量	短按或长按V+	调节范围0-15，默认值为8，数值越大音量越高，数值越小音量越低
减音量	当前音量	短按或长按V-	
上一个电台	当前频率	短按F-	在已储存的电台中切换
下一个电台	当前频率	短按F+	
向下搜索电台	当前频率	长按F-	搜索到的电台不会自动进行储存
向上搜索电台	当前频率	短按F+	
重新搜索电台	当前频率	长按V+和F+	会自动清除储存的电台并重新搜索和储存新电台
进入设置模式		长按V+和V-	设置收音阈值-省电模式-信号强度显示
进入频道管理模式	数码管闪烁	长按F+和F-	可自行添加或删除储存电台

Main interface (does not set the default only shows the channel)			
Function	Interface display/s tatus	Operation	Description
Plus volume	Current Volume	Short press or long press V+	Adjustment range is 0-15, the default value is 8, the larger the value, the higher the volume, and the smaller the array, the lower the volume
Volume reduction	Current Volume	Short press or long press V-	
The previous radio station	Current Frequency	Short press F-	Switching in stored stations
The next station.	Current Frequency	Short press F+	

Search down for stations	Current Frequency	Long press F-	Searched stations will not be automatically saved
Search up stations	Current Frequency	Short press F+	
Search stations again	Current Frequency	Long press V+ and F+	Automatically clears saved stations and re-searches and saves new stations
Enter Setup Mode		Long press V+ and V-	Set Radio Threshold-power saving mode-signal strength display
Enter Channel Management Mode	digital tube flashing	Long press F+ and F-	Can add or delete their own saved stations

设置模式			
功能	界面显示/状态	操作	说明
收音 阈值		短按V+或V-修改阈值，短按F+或F-保存并进入下一设置	调节范围0-15，默认值为4，数值越大搜到的台越多，无效或信号较差的电台也越多，数值越小搜到的台越少，无效或信号较差的电台也越少。
省电 模式		短按V+或V-打开/关闭省电模式，短按F+或F-保存并进入下一设置	调节范围0-1，默认值为0，0为关闭省电模式，1为打开省电模式，在省电模式中无操作约13秒，会自动关闭数码管
信号 强度 显示		短按V+或V-打开/关闭信号强度显示，短按F+或F-保存并回到主界面	调节范围0-1，默认值为0，0为关闭信号强度显示，1为打开信号强度显示，打开信号强度显示时，主界面频率例如：  和信号强度例如：  进行相互切换

Setting Mode			
Function	Interface display/status	Operation	Description
			Adjustment range is 0-15, and the

Radio Threshold		Short press V+ or V- to modify the threshold, short press F+ or F- to save and go to the next setting	default value is 4. The larger the value, the more stations are searched, and the more stations with invalid or poor signals. The smaller the value, the fewer stations are searched, and the less stations with invalid or poor signals.
Power saving mode		Short press V+ or V- to turn on/off the power saving mode, short press F+ or F- to save and enter the next setting	The adjustment range is 0-1, the default value is 0,0 is to turn off the power saving mode, 1 is to turn on the power saving mode, there is no operation in the power saving mode for about 13 seconds, and the digital tube will be automatically turned off
Signal Strength Display		Short press V+ or V- to turn on/off the signal strength display, short press F+ or F- to save and return to the main interface	Adjustment range 0-1, the default value is 0,0 is off Signal Strength Display,1 is open Signal Strength Display, when the signal strength display is turned on, the frequency of the main interface is as follows:  and signal strength for example:  to switch between each other

频道管理模式（进入此模式数码管会进行闪烁）			
功能	界面显示/状态	操作	说明
上一个电台	当前频率	短按F-	在已储存的电台中切换
下一个电台	当前频率	短按F+	
向下搜索电台	当前频率	长按F-	搜索到的电台不会自动进行储存
向上搜索			

电台	当前频率	长按F+	
加频率	当前频率	短按V+	可自主调节到想要的频道，新频道不会自动进行储存
减频率	当前频率	短按V-	
添加频道	当前频道序列	长按V+	将频道添加到列表中，频率会和当前频道的序列号相互切换（最多储存30个台）
删除频道	当前频道序列	长按V-	将频道从列表中删除，频率会和当前频道的序列号相互切换
退出并保存	主界面	长按F+和F-	返回主界面

channel management mode (digital tube will flash when entering this mode)			
Function	Interface display/status	Operation	Description
The previous radio station	Current Frequency	Short press F-	Switching in stored stations
The next station.	Current Frequency	Short press F+	
Search down for stations	Current Frequency	Long press F-	Searched stations will not be automatically saved
Search up stations	Current Frequency	Long press F+	
Plus frequency	Current Frequency	Short press V+	Can be adjusted to the desired channel, new channels will not be automatically stored
Minus frequency	Current Frequency	Short press V-	
Add Channel	Current channel sequence	Long press V+	Adding a channel to the list, the frequency will switch with the serial number of the current channel (up to 30 stations stored)
Delete Channel	Current channel sequence	Long press V-	The channel is deleted from the list, The frequency will switch with the current channel's serial number.
Exit and Save	Main interface	Long press F+ and F-	Return to main interface

