FM MW SW Radio DIY Assembly Kit

1.Features:

1>.FM/MW/SW frequency broadcast

2>.Search and store programs automatically

3>.Time display

4>.Battery power display

5>.Type-C charging port

6>.Power off memory function

7>.Sleep mode

8>.Stable signal

9>.HD sound quality

2.Parameters:

1>.Product name:FM MW SW Wireless Radio Receiver DIY Kit

2>.Model:KCX_RADIO

3>.Work Voltage:DC 3.7V

4>.Work Current:<500mA

5>.Standby current: <20uA

6>.Display Backlight:Amber

7>.FM Frequency Range:87MHz-108MHz(Accuracy 0.1MHz)

8>.MW Frequency Range:522KHz-1620KHz(Accuracy 9KHz)

9>.SW Frequency Range:4.75MHz-21.85MHz(Accuracy 0.5MHz)

10>.FM Noise limiting sensitivity:30dB =< 8dBu

11>.MW Noise limiting sensitivity:26dB =< 60dBu

12>.SW Noise limiting sensitivity:26dB =< 32dB

13>.FM SNR:98MHz >= 50dB

14>.MW SNR:1000KHz >= 40dB

15>.Output power(Speaker):4ohm 5W

16>.Output power(Headset):100mW*2

17>.Maximum output distortion:<10%

19>.Work Temperature:-20℃~85℃

20>.Work Humidity:0%~95%RH

21>.Size(Installed):108*65*30mm

3.Component listing:

NO.	Component Name	Parameter	QTY
1	KCX_RADIO Audio Receiver	58*49*10mm	1
2	4ohm 5W Speaker	D40mm	1
3	Polymer Lithium Battery	3.7V/1000mAh	1

4	White Button Cap	4*7mm	10
5	White Cable Tie	2.7*80mm	2
6	White Cable Tie	2.7*200mm	2
7	Antenna Connect Wire	M2mm L50mm	1
8	Telescopic Antenna	7.5~30cm	1
9	Magnetic Rod Antenna	4*7*50mm	1
10	Acrylic Front Board	108*65mm	1
11	Acrylic Back Board	108*65mm	1
12	Acrylic Left-Side Board	64*25mm	1
13	Acrylic Right-Side Board	64*25mm	1
14	Acrylic TOP Board	108*30mm	1
15	Acrylic Button Board	108*30mm	1
16	Acrylic Speaker-Socket-Thick Board	50*42mm	1
17	Acrylic Speaker-Cover-Thin Board	50*42mm	1
18	Acrylic Battery Bracket Board	58*53mm	1
19	Copper Pillar	M3*7mm	1
20	Copper Pillar Screw	M2*4+3mm	4
21	Copper Pillar	M2*11mm	8
22	Copper Pillar	M2*25mm	4
23	Screw	M3*5mm	2
24	Screw	M2*12mm	4
25	Screw	M2*5mm	20

4.FM/MW/SW Features:

1>.FM: Frequency Modulation Broadcast.

1.1>.Radio wave signal: the amplitude remains unchanged and its frequency is adjusted.

1.2>.Advantage:Listening to FM radio is characterized by low interference, clean sound, stereo (dual channel) programs can be received, and a wide audio range;

1.3>.Disadvantages: because the FM frequency band mainly propagates through a straight line and reflected by ground objects, the signal transmitted through the radio station has short propagation distance and small coverage, and generally can only listen to the FM programs of the local station.

2>.MW: Medium Wave.

2.1>.Medium waves can be transmitted through sky waves and ground waves. But sky waves are very unstable. In the process of sky wave propagation, path attenuation, time delay, atmospheric noise, multipath effect, ionospheric fading and other factors will cause signal weakening and distortion and affect the effect of communication.

2.2>.Advantage:MW can receive far away wireless broadcasting, mono.

2.3>.Disadvantages:Noise, strong directionality, weak anti-interference ability and average sound quality. Due to the influence of the ionosphere, there is basically no signal during the day.

3>.SW: Shortwave.

3.1>.The propagation of short wave mainly depends on sky wave. It can be transmitted to a long distance with the help of sky wave with very small power.

3.2>.Advantage:With long distance and wide coverage, you can hear international radio programs.

3.3>.Disadvantages:The signal drift is unstable, with high noise, mono and poor sound quality. Basically no signal is received during the day.

5.Button Function:

5.1>.POWER

Press the "POWER" button, the "ON" will be displayed on the screen for 2 seconds, and then the radio frequency will be displayed. You can receive your favorite radio program by adjusting FRE-/FRE+. When the "POWER" is pressed again, the "OFF" will be displayed on the screen,and the radio will turn off and return to the clock state.

5.2>.VOL+/VOL-

When a radio is playing, short press the "VOL+" to increases the volume (long press to continuously increases); short press the "VOL-" to decreases the volume (long press to continuously decreases). The volume can be adjusted from 00 to 31.

5.3>.LOCK_SLEEP: Sleep Mode

Press the "LOCK_SLEEP" button in the radio state, the sleep shutdown time and the sleep icon are displayed on the screen. For example, the "90" number indicates that the radio automatically turns off after 90 minutes of listening time. You can press the "LOCK_SLEEP" button repeatedly when the number of sleep timing is flashing on the screen. The sleep time can be selected from "90-60-45-30-15-10-OFF "minutes. If" OFF "is selected, the sleep timing function is canceled. When you are listening to programs during sleep mode, press the "POWER" button to turn off the radio function in advance and automatically return to the state of the clock.

In addition, long press the "LOCK_SLEEP" button for more than 2 seconds, then it indicates the "key lock" function. The screen displays the "key" symbol, indicating that all buttons have been locked (all buttons does not work). To unlock the buttons, long press the "LOCK_SLEEP" button for more than 2 seconds until the "key" symbol disappears on the screen.

5.4>.TIME: Set the Time/Search and Store Programs

5.4.1>.Set the Time:

(1) In the clock state (switch radio and clock through "POWER"), long press the "TIME" button for 2 seconds, the screen displays and flashes "12" or "24", select the 12/24 hour system through "FRE-" or "FRE+". If there is no operation within 5 seconds, the system automatically exits the current setting.

(2) After selecting the hour system, press the "TIME" button again, the screen displays and flashes the hour, change the hour time by "FRE-" or "FRE+", long press to change quickly. If there is no operation within 5 seconds, the system automatically exits the current setting.

(3) After changing the hour, press the "TIME" button again, and the screen displays and flashes the minute time. Change the minute time by "FRE-" or "FRE+", and long press to change quickly. If there is no operation within 5 seconds, the system automatically exits the current setting.

(4) Then press the "TIME" button again to exit the current setting.

5.4.2>.Search and Store Programs:

In the radio state, long press the "TIME" button for more than 2 seconds for scanning and storage mode. The frequency of the current radio station will increase rapidly. It will automatically store the radio station with program in the memory chip. When the screen shows P00, the first station is stored, and P01, the second station is stored, and so on.

5.5>.ALARM/ALARM_ON/OFF: Set the Time to Play Again/Change Programs

5.5.1>.Set the Time to Play Again:

The set time must be set in clock mode.

(1) Long press the "ALARM" for 2 seconds. The hour is displayed and flashing continuously on the screen. Press "FRE-" or "FRE+" to change the hour, long press to change quickly. If there is no operation within 5 seconds, the system automatically exits the current setting.

(2) After changing the hour, press the "ALARM" and the minute is displayed and flashing continuously on the screen. Press "FRE-" or "FRE+" to change the minute, long press to change quickly. If there is no operation within 5 seconds, the system automatically exits the current setting.

(3) Long press "AL_ON/OFF" for 2 seconds. If the alarm icon is displayed on the screen, indicating that the startup function is enabled. If the alarm icon disappears, indicating that the startup function is disabled.

5.5.2>.Change Programs:

(1) Users can quickly change programs by long pressing the "ALARM" or "ALARM_ON/OFF" button.

(2) If you want to save the current station frequency, long press the "ALARM" or "ALARM_ON/OFF" until the "PRE" symbol appears. During the symbol flash, press the "ALARM" or "ALARM_ON/OFF" and select the serial number you want to storage.

5.6>.AM/FM

Press 'AM/FM' button to switch FM, AM, SW in turns.

6.Application:

1>.DIY radio

2>.Outdoor travel

3>.Amateur leisure

4>.Student school

5>.DIY production

6>.Project Design

7>.Electronic competition

8>.Gift giving

9>.Crafts collection

10>.Home decoration

11>.Souvenir collection

12>.Graduation design

13>.Holiday gifts

7.Note:

1>.The radio receiver should be as far away as possible from the WIFI signal (router) avoid signal interference.

2>.It is not recommended to play music when recharging to avoid damaging the battery.

3>.Please read use manual and description before use.

8.Installation Steps(Please be patient install!!!):

1>.Step 1: Tear off the protective film on the acrylic surface.

2>.Step 2: Cut about 1mm around gap on Acrylic Battery Bracket Board, which are convenient for

subsequent installation of copper column. Note: Scrape with a knife or cut carefully with pliers BUT do not damage the acrylic plate.

3>.Step 3: Fix 1pcs 4*7*50mm Magnetic Rod Antenna on Acrylic Battery Bracket Board by 2pcs 2.7*80mm White Cable Tie.

4>.Step 4: Fix 1pcs 3.7V/1000mAh Polymer Lithium Battery on Acrylic Battery Bracket Board by 2pcs 2.7*200mm White Cable Tie.

5>.Step 5: Fix 4pcs M2*11mm Copper Pillar on KCX_RADIO Audio Receiver by 4pcs M2*4+3mm Copper Pillar Screw.

6>.Step 6: Fix KCX_RADIO Audio Receiver on Acrylic Battery Bracket Board by 4pcs M2*5mm Screw with 1pcs Antenna Connect Wire. Note: the smaller terminal place on Acrylic and then fix screw.

7>.Step 7: Fix 4pcs M2*25mm Copper Pillar on Acrylic Front Board by 4pcs M2*5mm Screw. Tips: It is not recommended to fix the screws too tightly, so it is convenient to install the rear components.

8>.Step 8: Place 10pcs 4*7mm White Button Cap on Acrylic Front Board.

9>.Step 9: Fix 7.5~30cm FM Telescopic Antenna to the bigger terminal of Antenna Connect Wire by 1pcs M3*7mm Copper Pillar and 1pcs M3*5mm Screw.

10>.Step 10: Fix FM Telescopic Antenna assembly on Acrylic Speaker-Socket-Thick Board by 1pcs M3*5mm Screw.

11>.Step 11: Fix KCX_RADIO Audio Receiver on Acrylic Battery Bracket Board by 4pcs M2*5mm Screw.

12>.Step 12: Install Acrylic TOP Board. Note: antenna mounting hole.

13>.Step 13: Fix 4pcs M2*11mm Copper Pillar on Acrylic Speaker-Socket-Thick Board by 4pcs M2*12mm Screw. Note: It is not recommended to fix the screws too tightly, so it is convenient to install the rear components.

14>.Step 14: Insert 1pcs 4ohm 5W Speaker to KCX_RADIO Audio Receiver.

15>.Step 15: Install Acrylic Button Board.

16>.Step 16: Install Acrylic Left-Side Board.

17>.Step 17: Install Acrylic Right-Side Board.

18>.Step 18: Fix 1pcs Acrylic Speaker-Cover-Thin Board, which is used to fix speaker.

19>.Step 19: Install 1pcs M2*5mm Screw to location Acrylic Back Board at first. Tips: It is not recommended to fix the screws too tightly, now.

20>.Step 20: Install and fix all screws after aligning the acrylic mounting hole.

✔FM MW SW Radio Receiver
✔High sensitivity
✔Lithium battery powered
✔Lithium battery charging
✔Timing Startup Time
✔Timed shutdown
✔Scan storage stations
✔Speaker/Headset ouput
✔100mW*2 Stereo for headset
✔5W Mono for speaker

FM : 87MHz-108MHz

MW : 522KHz-1620KHz

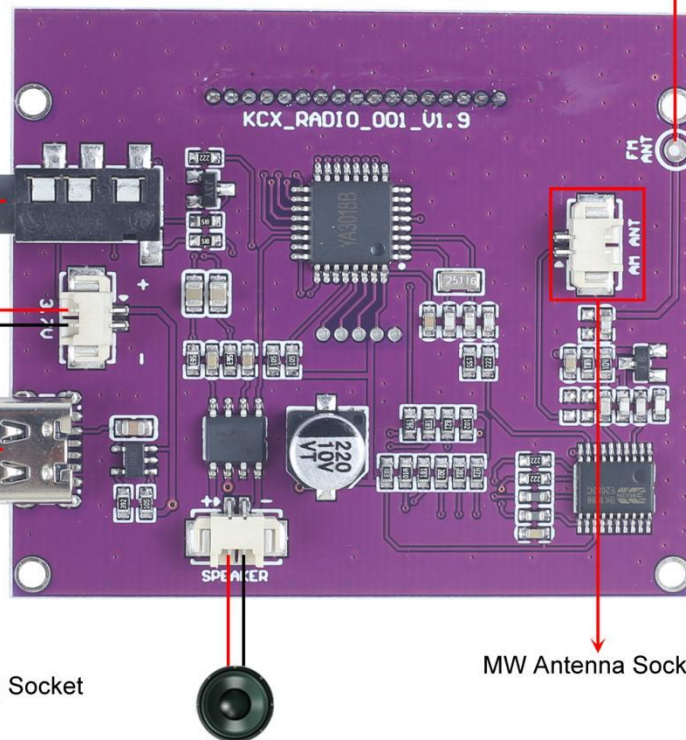SW : 4.75MHz-21.85MHz
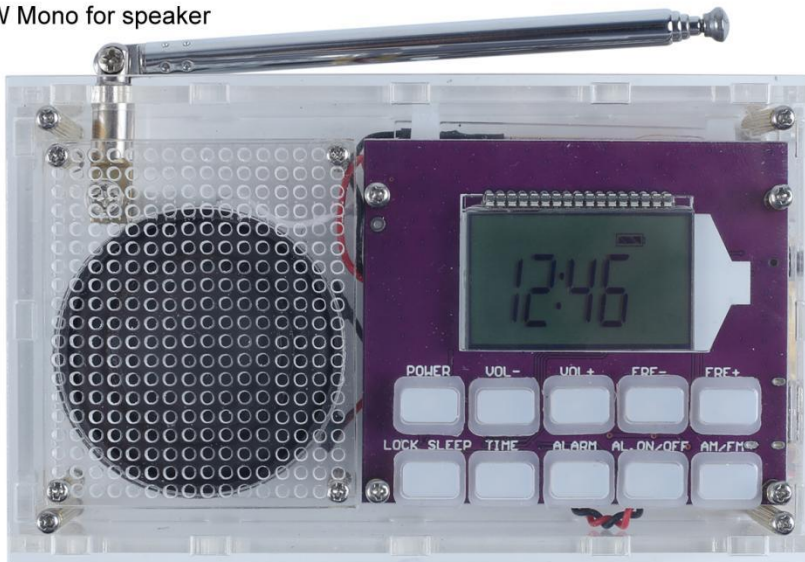
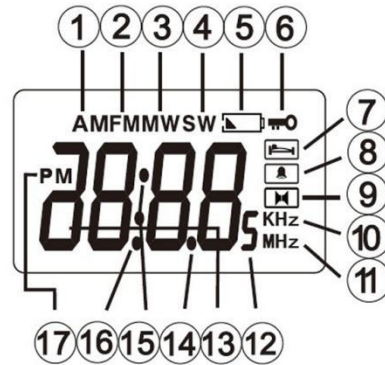

AUX Headset Socket
(100mW*2 Stereo)

FM/SW Antenna Socket

KCX_RADIO_001_V1.9

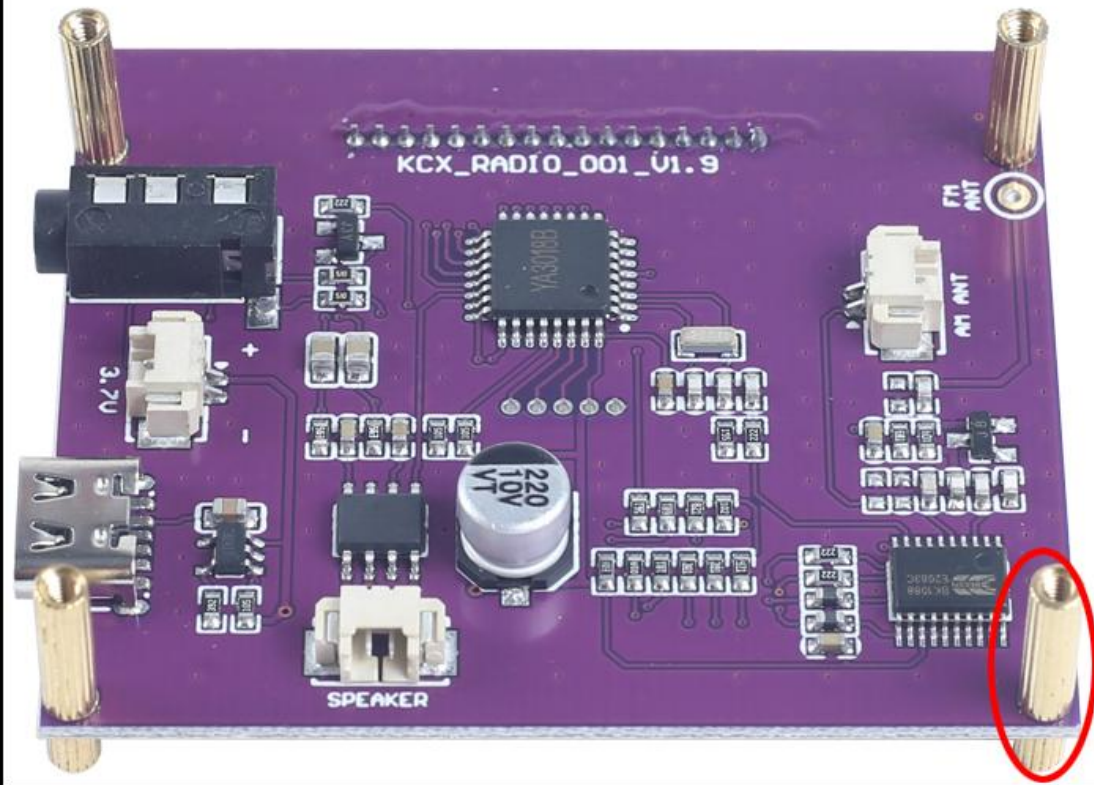Input Work Voltage
3.7V lithium battery

MW Antenna Socket

Type-C USB Charging Socket

4ohm 5W Speaker(Mono)

①. AM Morning indicator
②. FM FM indicator
③. MW MW indicator
④. SW SW indicator
⑤. ▭ Low voltage indicator
⑥. ⊸ Locked indicator
⑦. ⊠ Sleep Icon indicator
⑧. ▣ Timing startup time indicator
⑨. ⋈ Stereo indicator
⑩. KHz MW frequency unit
⑪. MHz FM/SW frequency unit
⑫. 5 SW frequency value

⑬. Time or frequency value
⑭. FM Decimal point
⑮. Time division point
⑯. SW decimal point
⑰. Afternoon indicator

Step 1: Tear off the protective film on the acrylic surface.

Step 2: Cut about 1mm around gap on Acrylic Battery Bracket Board, which are convenient for subsequent installation of copper column. Note: Scrape with a knife or cut carefully with pliers BUT do not damage the acrylic plate.
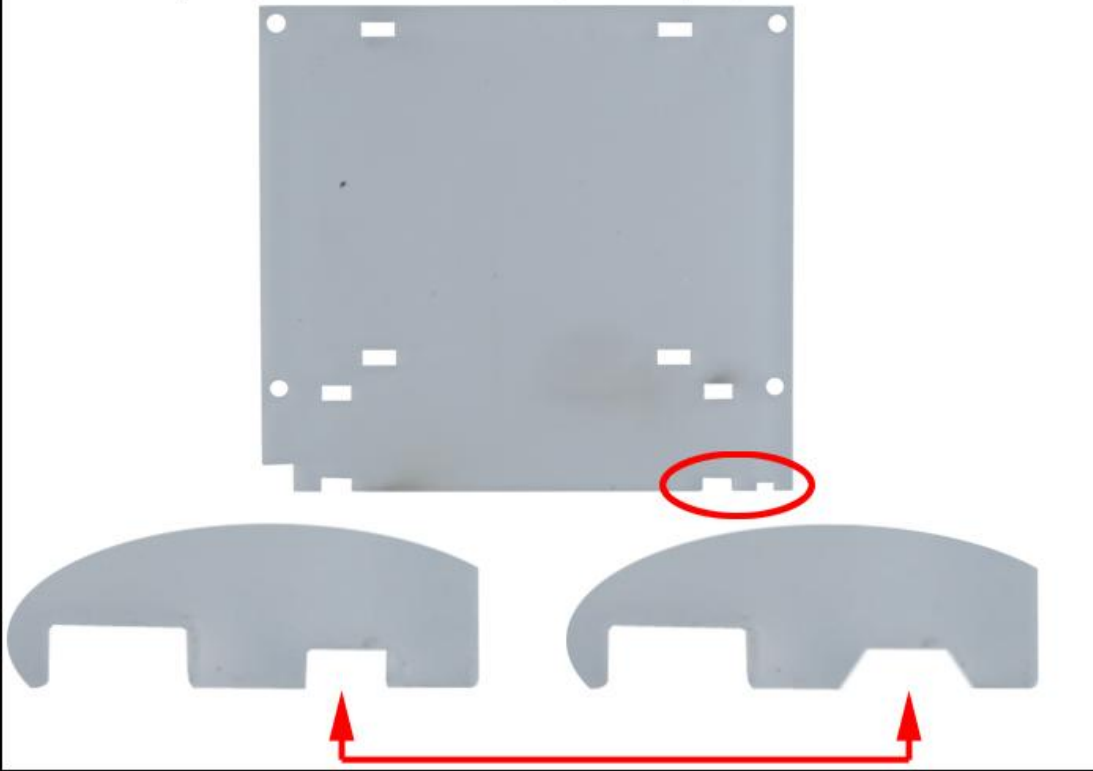
Step 3: Fix 1pcs 4*7*50mm Magnetic Rod Antenna on Acrylic Battery Bracket Board by 2pcs 2.7*80mm White Cable Tie.
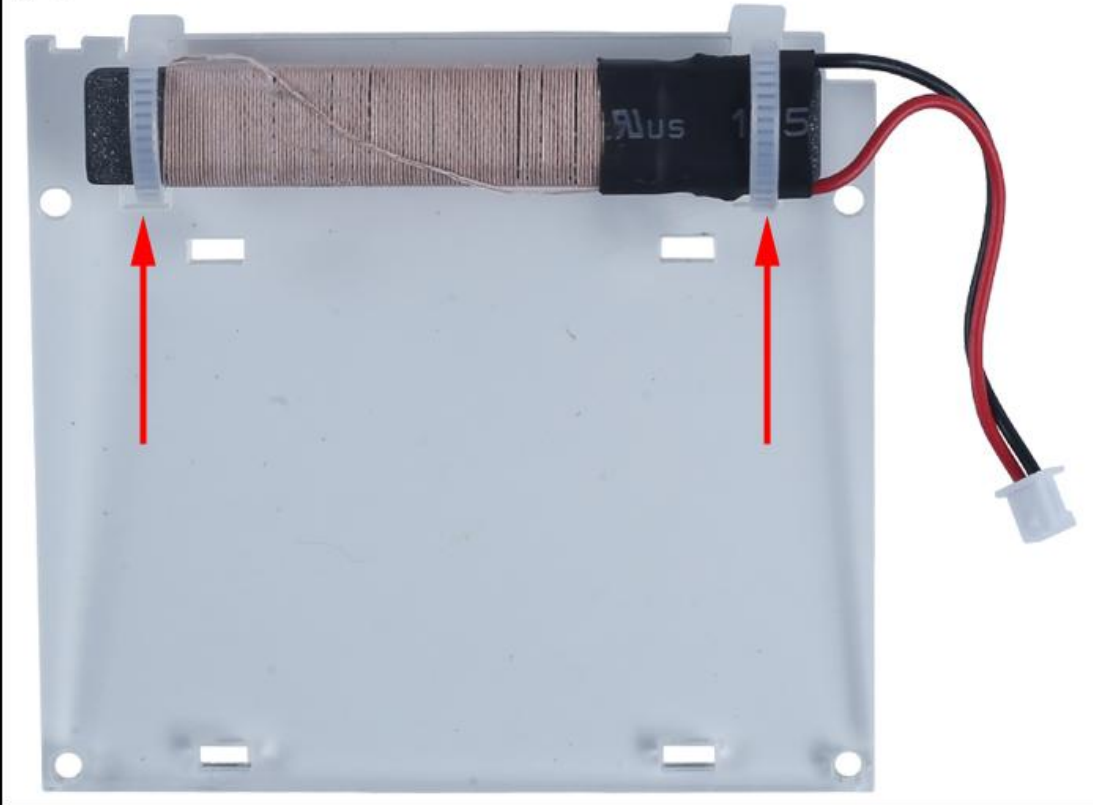
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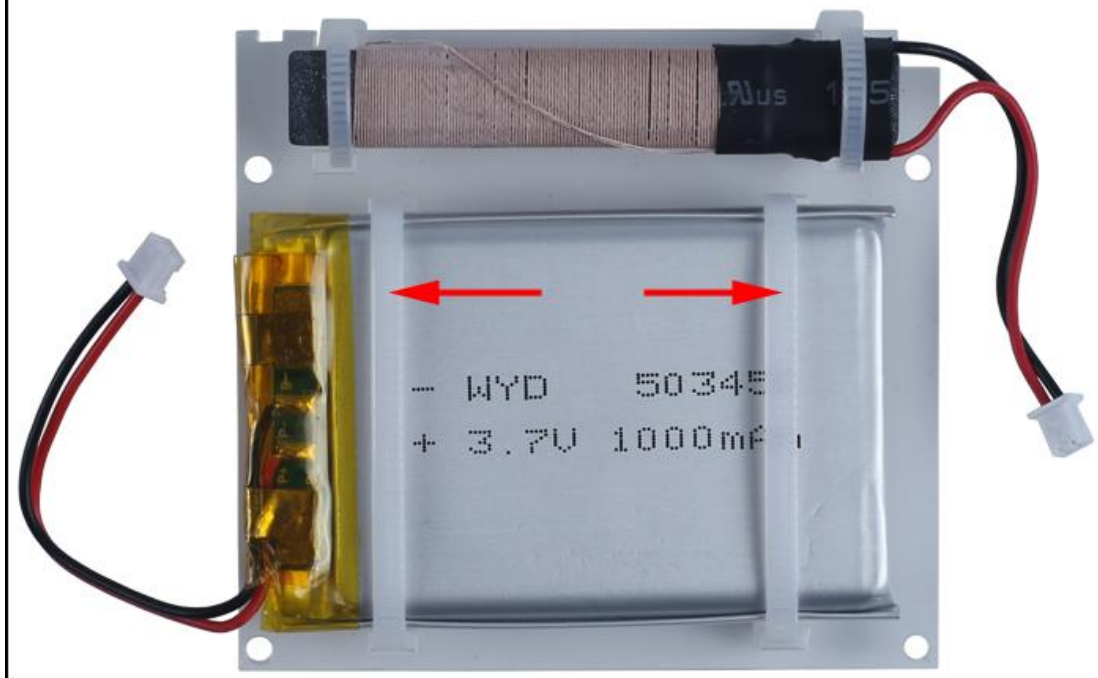
Step 5: Fix 4pcs M2*11mm Copper Pillar on KCX_RADIO Audio Receiver by 4pcs M2*4+3mm Copper Pillar Screw.

Step 6: Fix KCX_RADIO Audio Receiver on Acrylic Battery Bracket Board by 4pcs M2*5mm Screw with 1pcs Antenna Connect Wire.
Note: the smaller terminal place on Acrylic and then fix screw.

Antenna Connect Wire
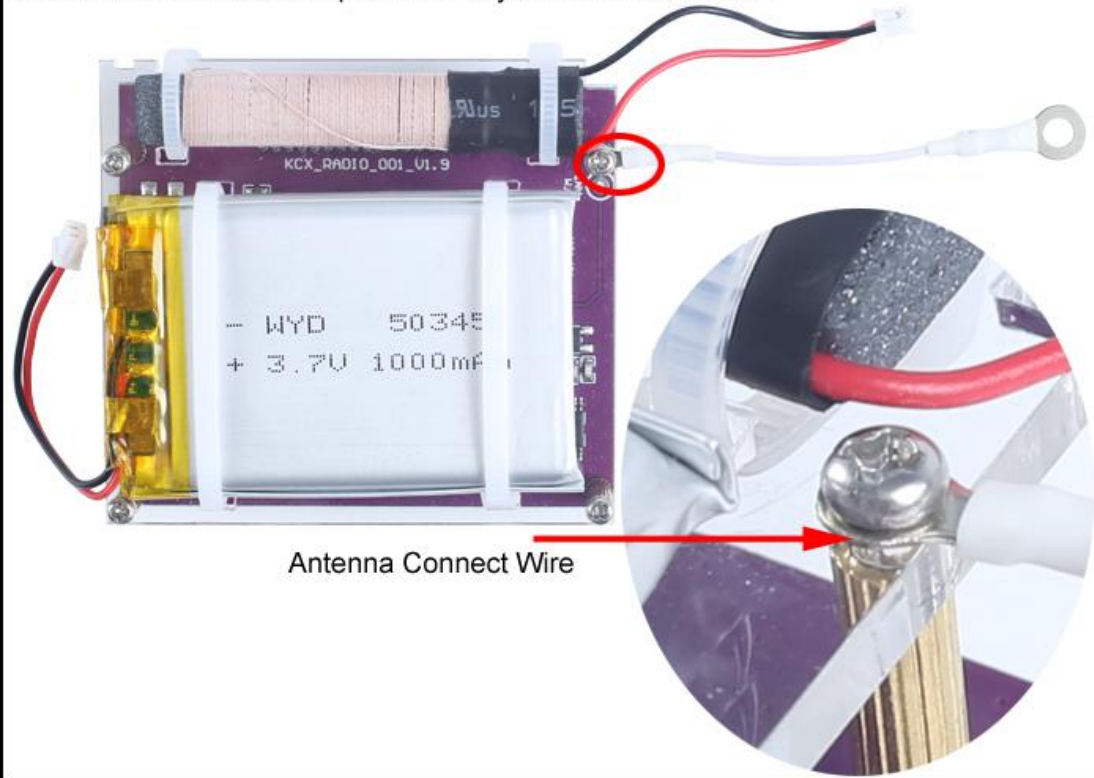
Step 7: Fix 4pcs M2*25mm Copper Pillar on Acrylic Front Board by 4pcs M2*5mm Screw. Tips: It is not recommended to fix the screws too tightly, so it is convenient to install the rear components.
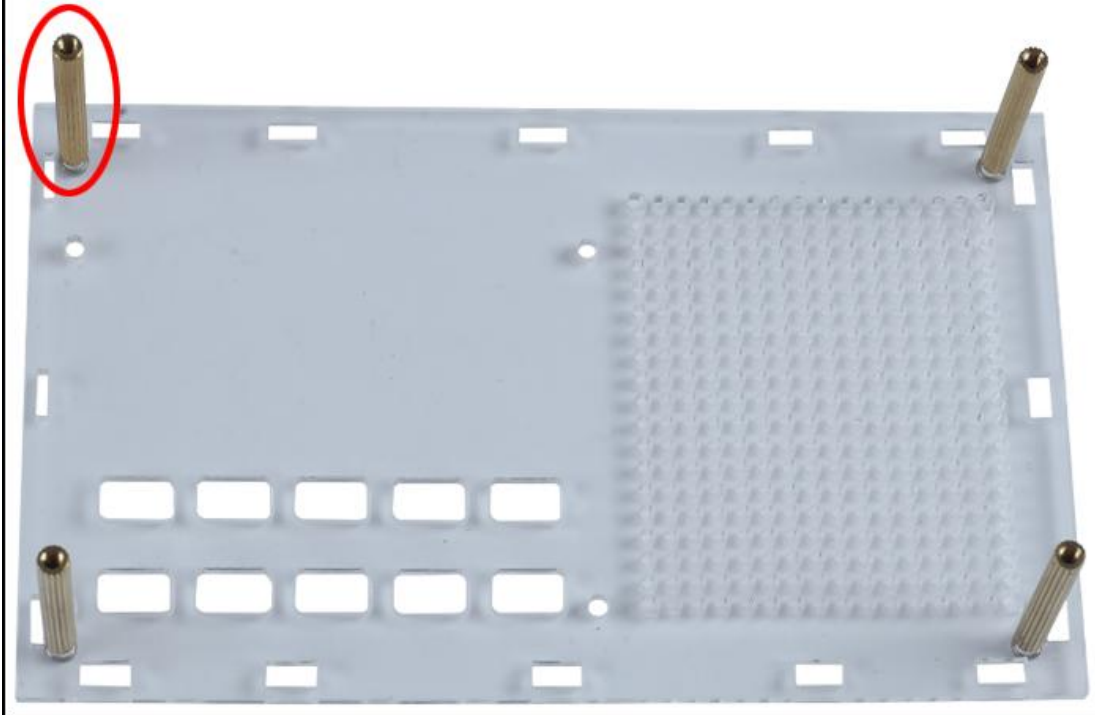
Step 8: Place 10pcs 4*7mm White Button Cap on Acrylic Front Board.
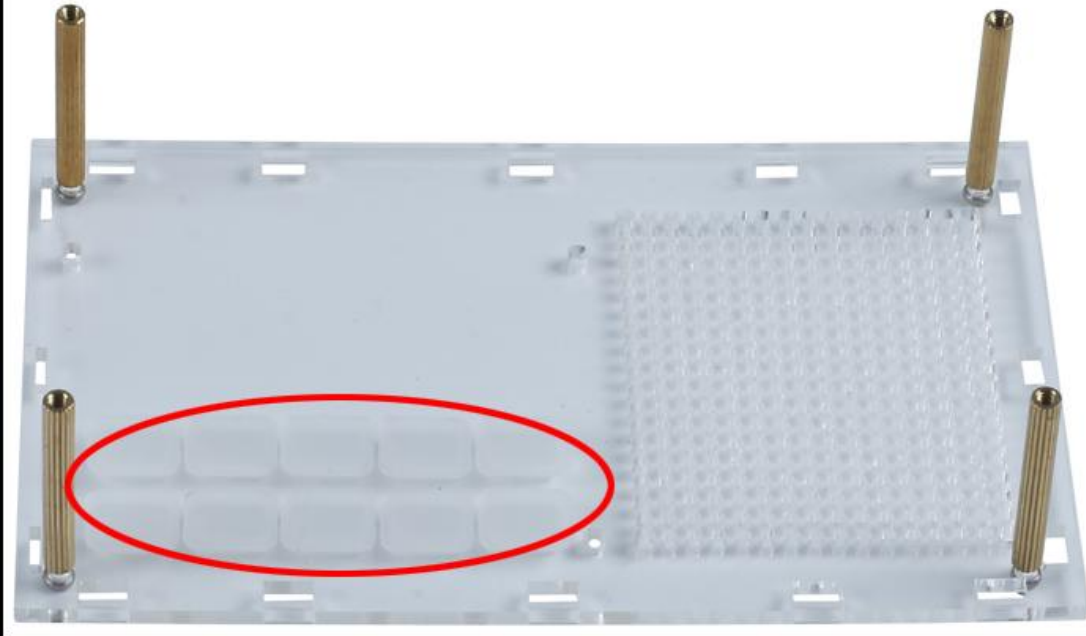
Step 9: Fix 7.5~30cm FM Telescopic Antenna to the bigger terminal of Antenna Connect Wire by 1pcs M3*7mm Copper Pillar and 1pcs M3*5mm Screw.
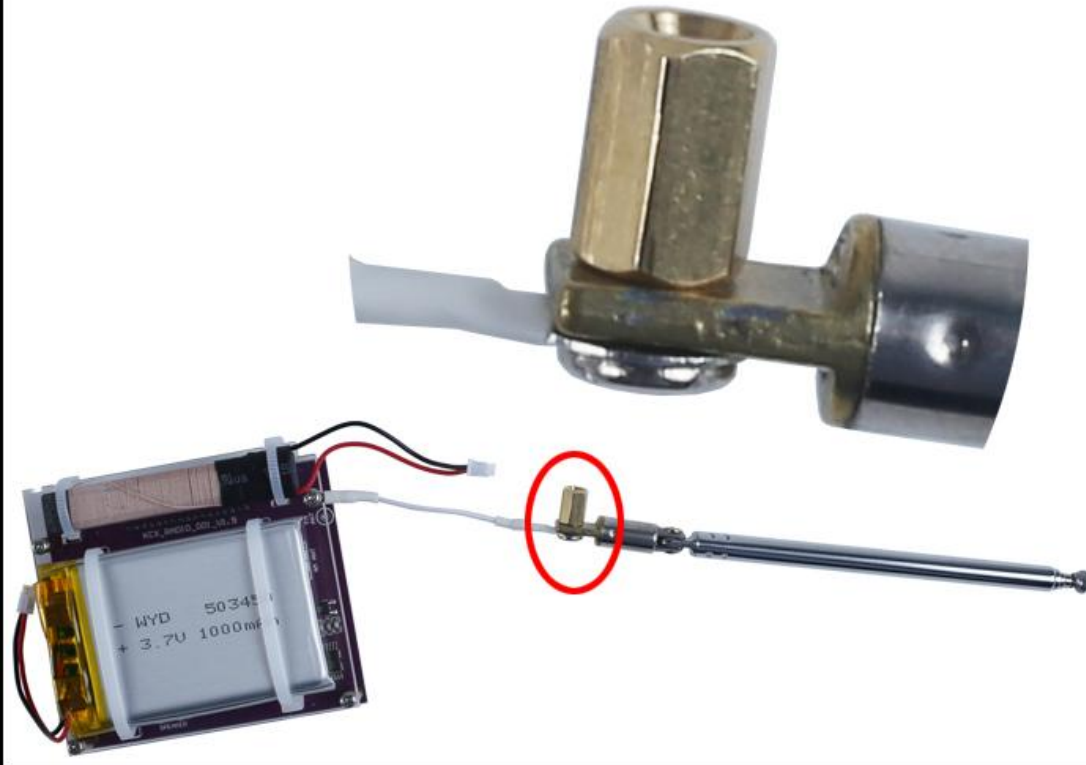
Step 10: Fix FM Telescopic Antenna assembly on Acrylic Speaker-Socket-Thick Board by 1pcs M3*5mm Screw.

Step 11: Fix KCX_RADIO Audio Receiver on Acrylic Battery Bracket Board by 4pcs M2*5mm Screw.
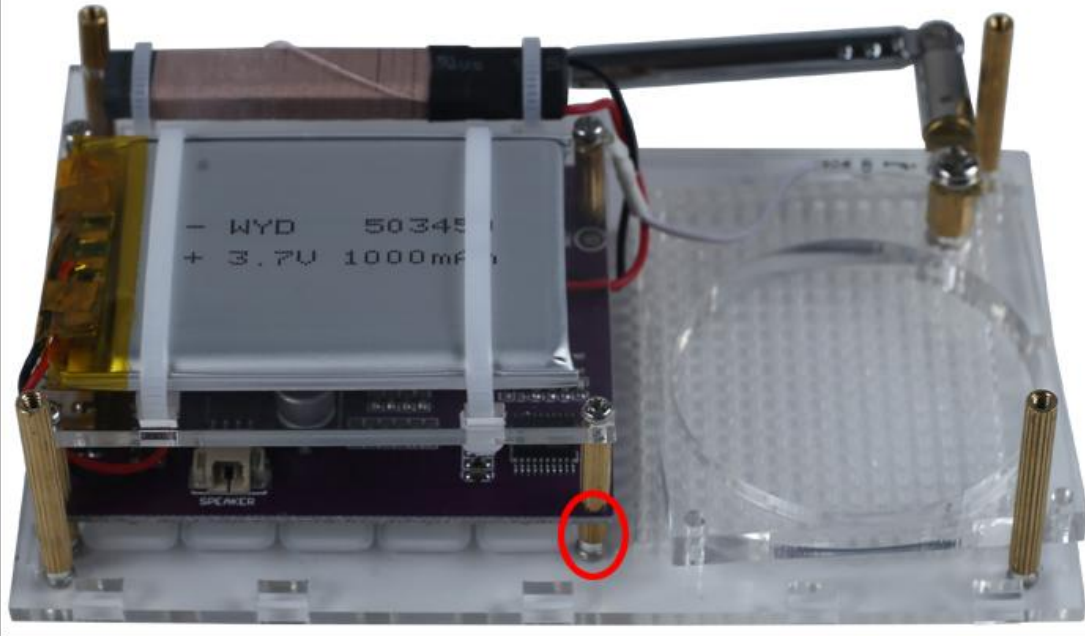
Step 12: Install Acrylic TOP Board. Note: antenna mounting hole.
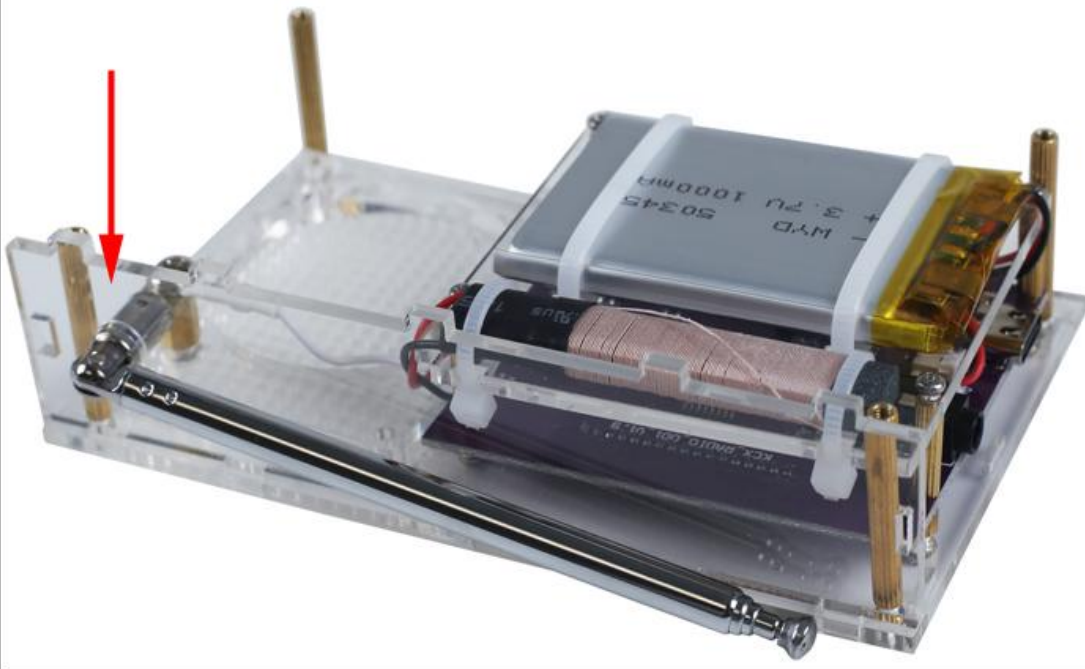
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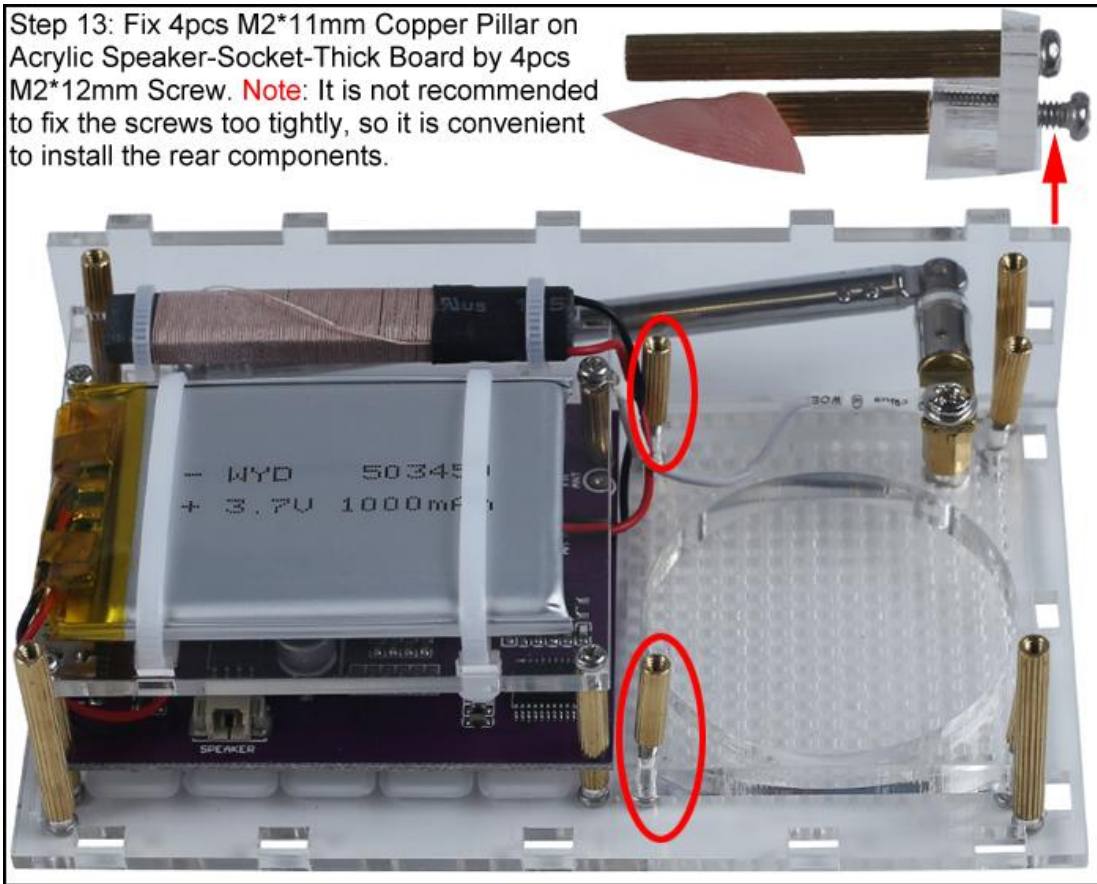
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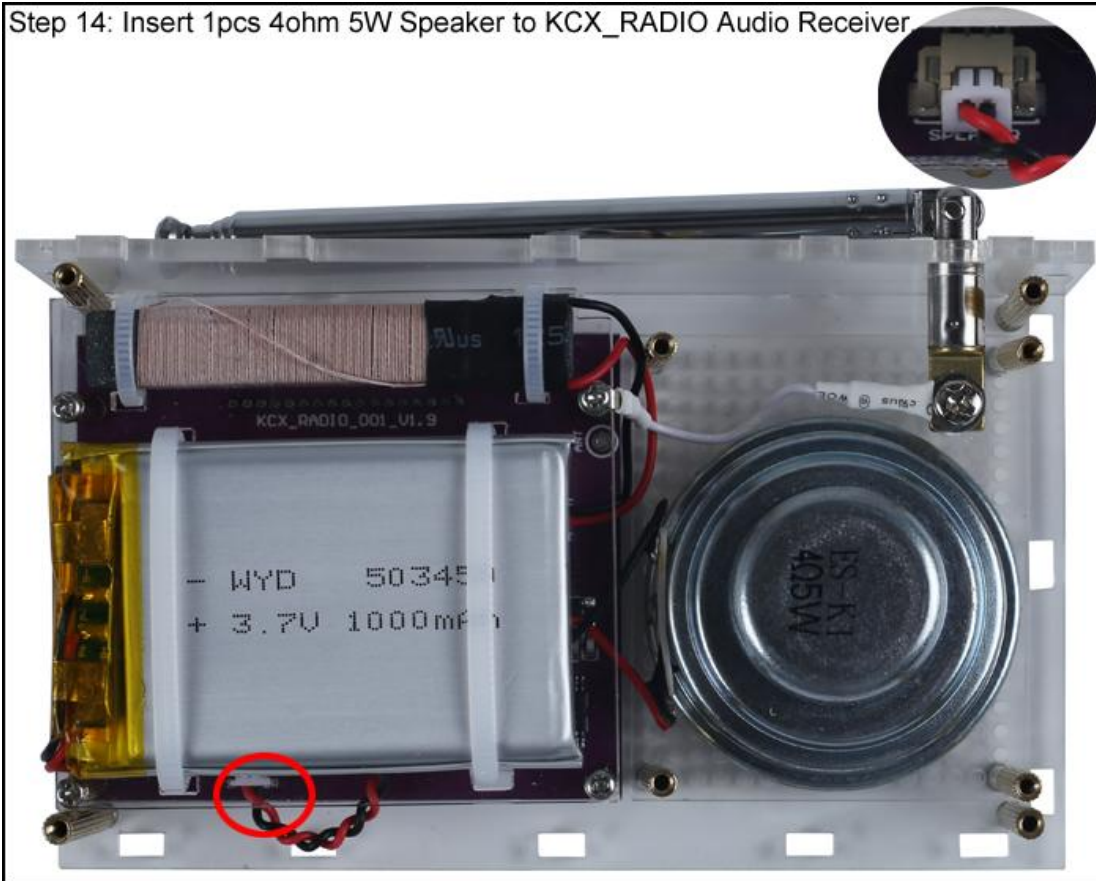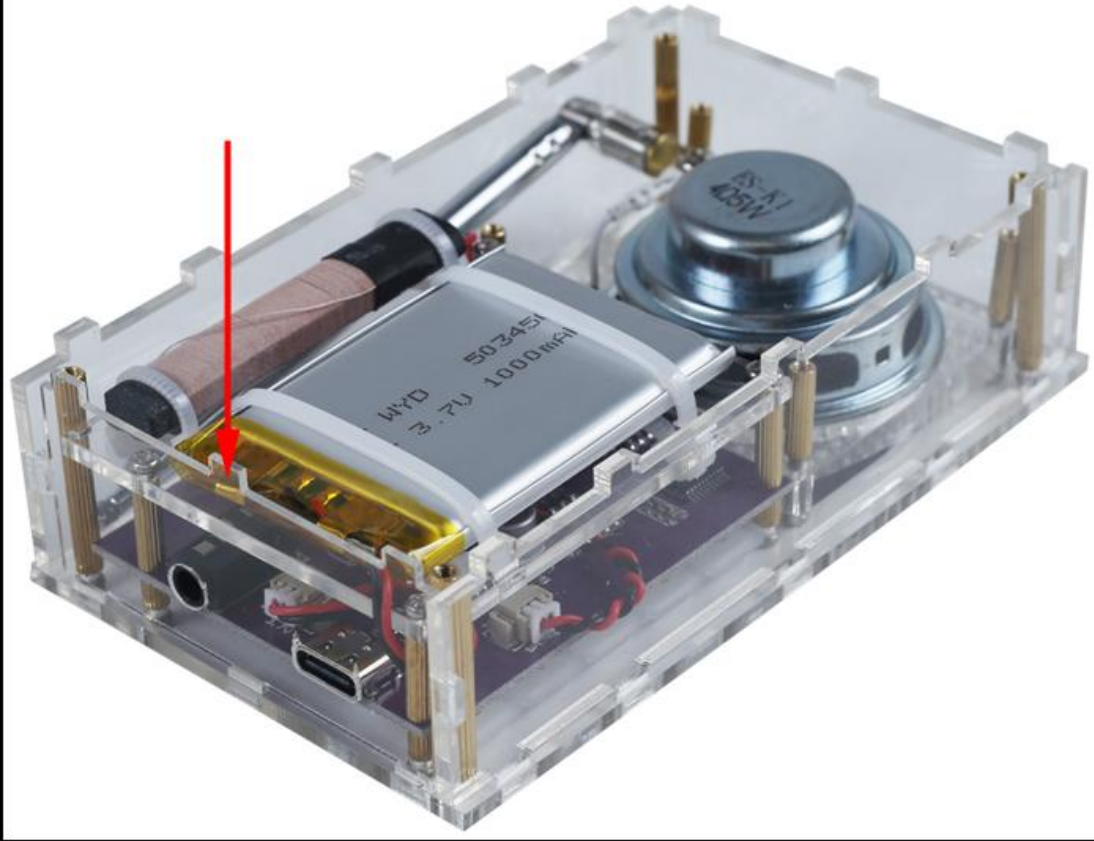

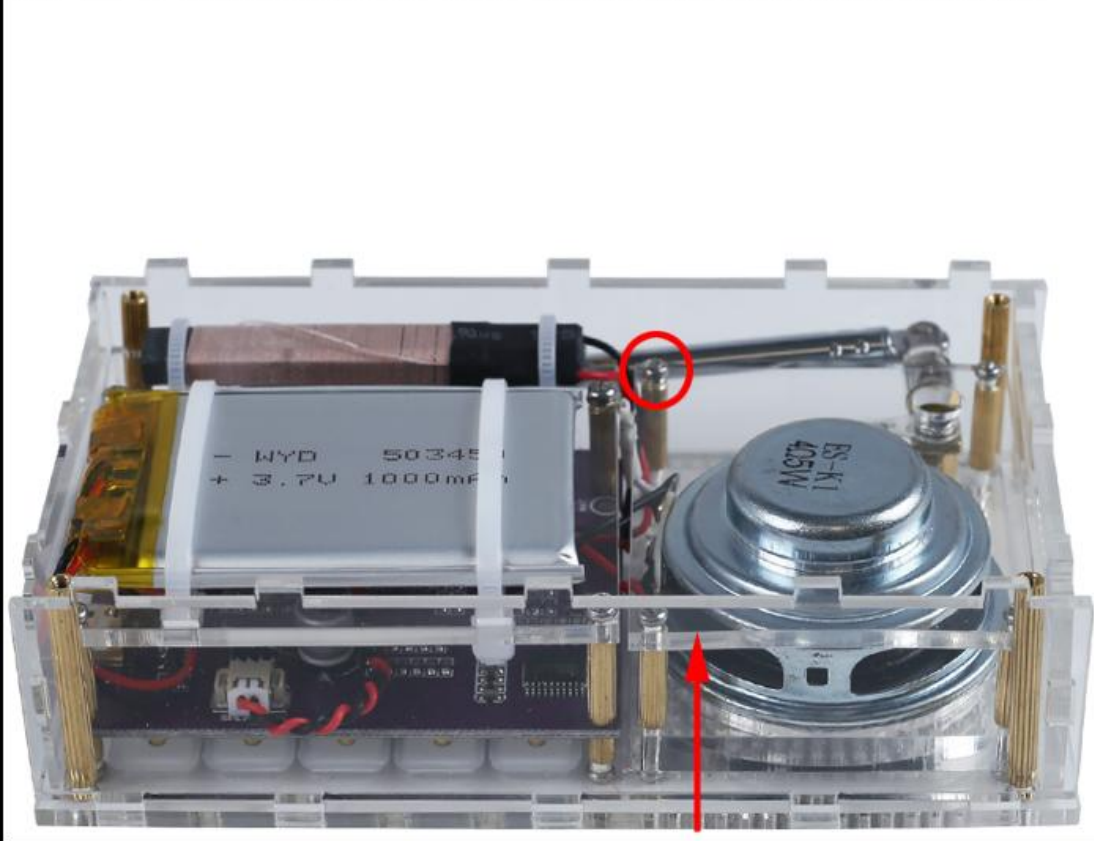Step 15: Install Acrylic Button Board.
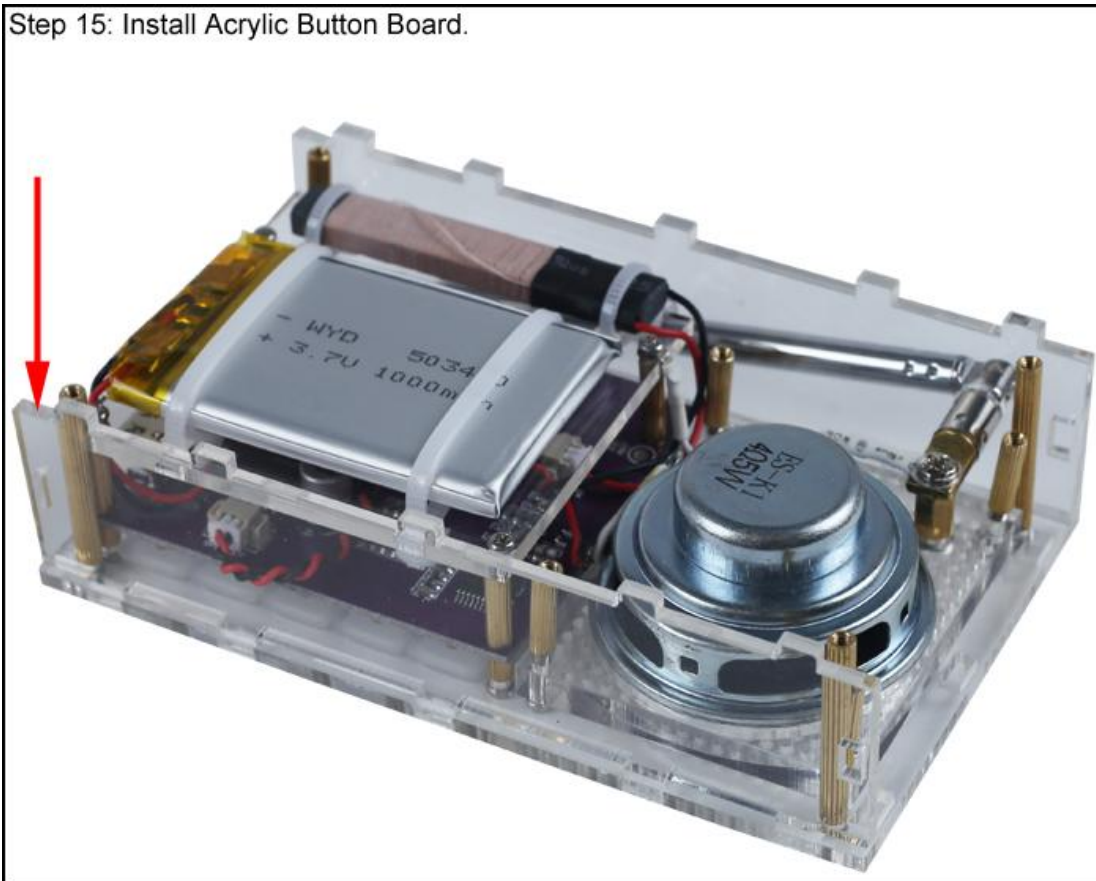
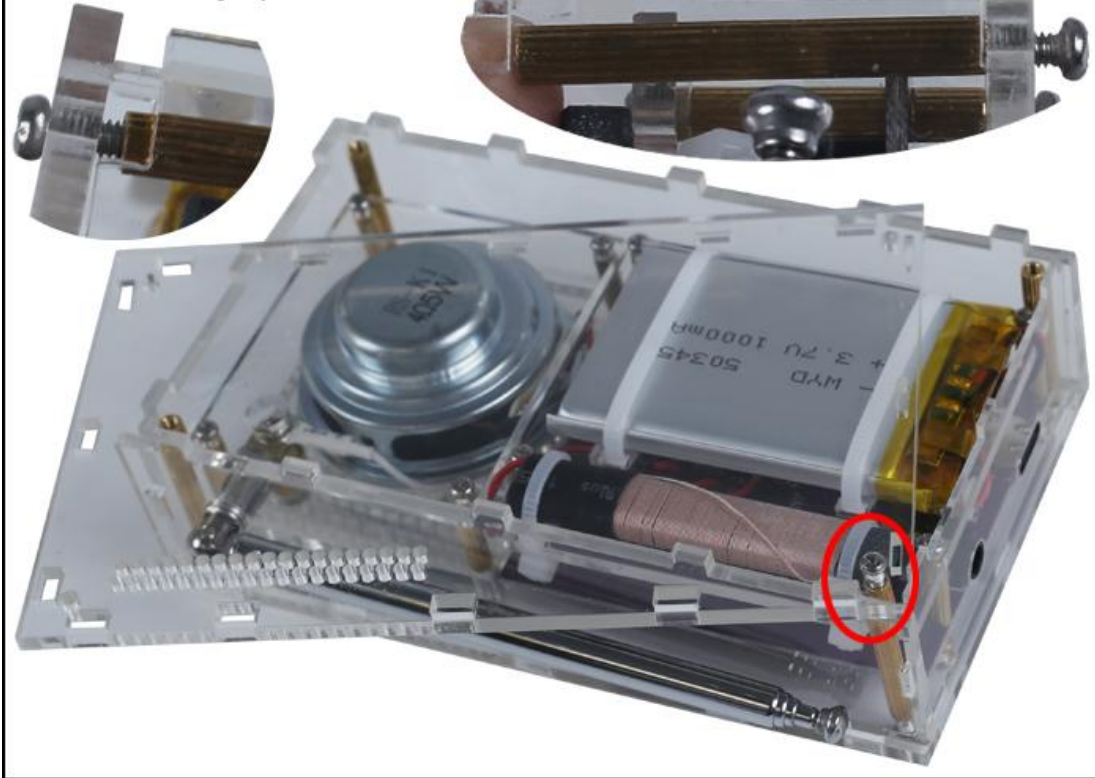Step 16: Install Acrylic Left-Side Board.
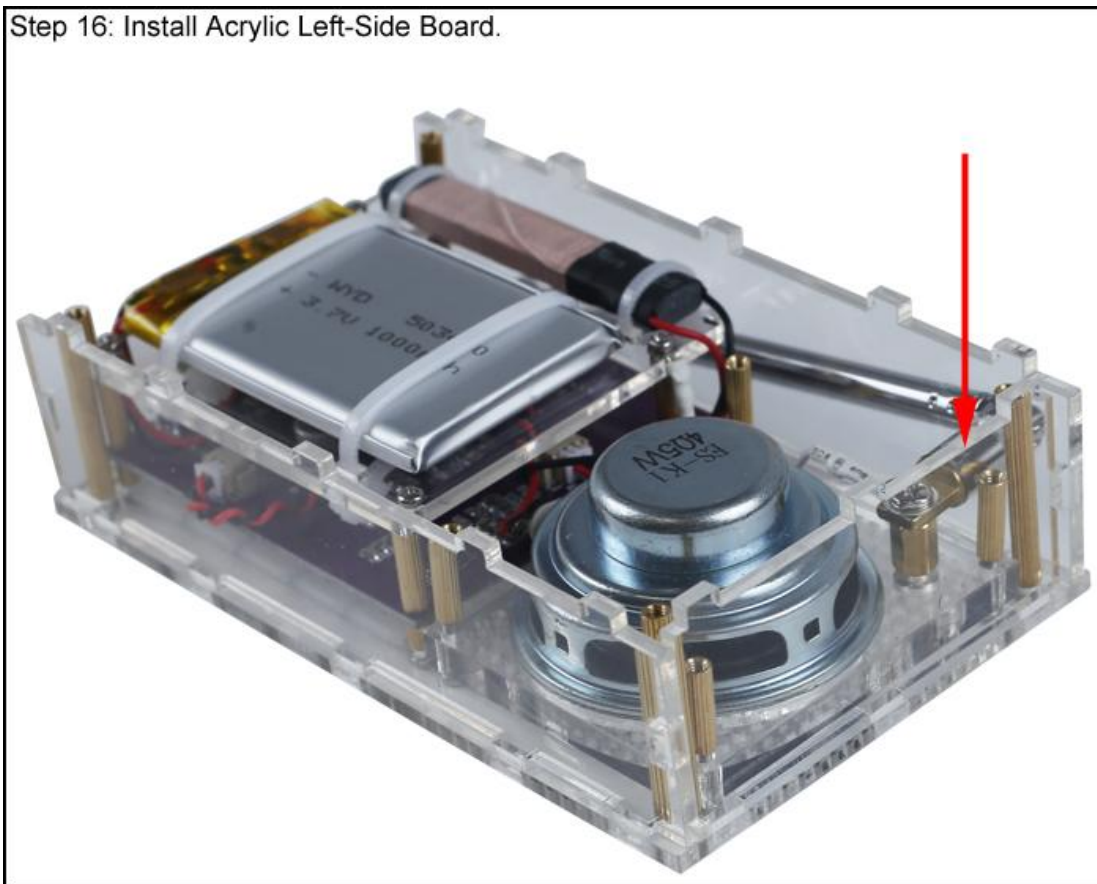
Step 17: Install Acrylic Right-Side Board.

Step 18: Fix 1pcs Acrylic Speaker-Cover-Thin Board, which is used to fix speaker.

Step 19: Install 1pcs M2*5mm Screw to location Acrylic Back Board at first.
Tips: It is not recommended to fix the screws too tightly, now.

Step 20: Install and fix all screws after aligning the acrylic mounting hole.