

FM Bluetooth Amplifier Audio Speaker DIY Kit

1.Introduction:

It is a FM Bluetooth Amplifier Audio Speaker DIY Kit with Infrared Remote Control. It can play music from FM radio, Bluetooth, AUX, U-disk, and SD cards and the 3W 4ohm speakers produce clear and loud sound. User also can control play status or select audio source by infrared remote controller.

This DIY electronic product is an intriguing way for users to gain a better understanding of circuits and develop their soldering skills.

2.Feature:

1>.Multi-Audio Source Selectable: This device offers a variety of audio input options, including Bluetooth, FM, AUX, U-disk, and SD Card, enabling the playback of MP3 or lossless music files with a screen display indicating the current audio source. Users can control the music playback functions such as play/pause/next/prev/vol+/vol- using either the remote controller or on-board buttons.

2>.Bluetooth Player : With its built-in Bluetooth audio receiver and power amplifier, this device can directly drive 4ohm 3W speakers, producing clear and high-quality sound.

3>.Dual Channel Stereo Speaker: The device can drive two 2.0 3W*2 speakers, producing clear and powerful stereo sound.

4>.Rechargeable: It is powered by 4.2V lithium battery which can be used as outdoor mobile speaker. Built-in charging module is also more convenient for battery charging.

5>.DIY Hand Soldering: This is a DIY kit that comes with various components, and users need to install each component by hand. This process not only enhances soldering skills but also fosters an interest in electronic technology. It's an excellent option for electronics hobbyists, beginners, as well as school and home education.

3.Parameter:

1>.Product Name:FM Bluetooth Amplifier Audio Speaker DIY Kit

2>.Work Voltage: DC 4.2V

4>.Speaker: 3W 4ohm

5>.Channel: Dual-Channel Stereo

6>.Audio source:Bluetooth/FM/AUX/U-disk/SD Card

7>.FM station:Automatic radio search

8>.Receiver Frequency:87.0MHz~108.0MHz

9>.Frequency accuracy:0.1MHz

10>.Control Type:Bluetooth/Remote Controller/On Board Button

12>.Output type: Speaker

13>.Audio format:MP3

14>.Power interface: DC-005 Power Socket

15>.Work Temperature:-20℃~85℃

16>.Work Humidity:5%~85%RH

17>.Size(Installed):104*76*75mm

4.Use Methods:

1>.ON/OFF Power:

1.1>. Turn ON the work voltage if the Toggle Switch turn to ON/right status.

1.2>. Turn OFF the work voltage if the Toggle Switch turn to OFF/left status. Note: it just turn off the screen and speaker, but it is still working and continuously slightly depleting battery power.

2>.MP3 Mode:

2.1>.Insert a U-disk or SD card, and the receiver automatically recognizes and starts playing internal MP3 music files for U-disk or SD card.

2.2>.Button 'V-' : Click to switch Prev music and keep press to decrease volume.

2.3>.Button 'P/P': Press to stop playing and press again to start playing.

2.4>.Button 'V+' : Click to switch Next music and keep press to increase volume.

2.5>.Button 'MODE': Select audio sources as following: Bluetooth/FM/AUX/U-disk/SD Card.

2.6>.Note: U-disk/AUX/SD card has a higher priority than Bluetooth and FM. So it will play music from U-disk/AUX/SD card automatically after connect U-disk/AUX/SD card. But user also can switch audio source by button.

2.7>.Screen will display music playing time for current playing music at U-disk and SD card mode.

Restart displaying time if play next music.

- 2.8>.Display 'AUX' and 'AUH' for AUX mode;
- 2.9>.Display 'USB' at left upper corner and playing time.
- 2.10>.Display 'SD' at left lower corner and playing time.
- 2.11>.It can be controlled by buttons or Infrared Remote Controller.

3>.FM Mode:

- 3.1>.Select FM Mode by button 'Mode' as display current FM frequency.
- 3.2>.Button 'V-' : Click to switch Prev saved FM radio stations and keep press to decrease volume.
- 3.3>.Button 'P/P' : Click to playing/pause and keep press to search for radio stations and save them.
- 3.4>.Button 'V+' : Click to switch Next saved FM radio station and keep press to increase volume.

4>.AUX Mode:

4.1>.Select AUX Mode by button 'Mode'. It is also called LINE mode which needs input R/L/GND audio signal.

4.2>.Its adjustment method is the same as MP3 Mode.

5>.Bluetooth Mode:

- 5.1>.Select Bluetooth Mode by button 'Mode' as display 'bBLUE'.
- 5.2>.Search and connect Bluetooth device 'ZTV-CT02EA' on your phone.
- 5.3>.Button 'V-' : Click to switch Prev music and keep press to decrease volume.
- 5.4>.Button 'P/P' : Press to stop playing and press again to start playing.
- 5.5>.Button 'V+' : Click to switch Next music and keep press to increase volume.
- 5.6>.Answer Phone Calls: Click Button 'P/P' to answer phone calls at Bluetooth Mode if there is a call.

5.7>.Reject Calls: Keep press Button 'P/P' to reject phone calls at Bluetooth Mode if there is a call.

5.8>.Hang up the phone: Click Button 'P/P' to hang up the phone at Bluetooth Mode during a call.

5.9>.All buttons are not available when playing the built-in voice prompt tone.

5.10>.It can be controlled by buttons or Infrared Remote Controller.

5.Component Listing:

NO.	Component Name	PCB Marker	QTY
1	Speaker Holder		2
2	Speaker Cover		2
3	Speaker		2
4	XH2.54-2P Wire	15cm	3
5	XH2.54-3P Wire	10cm	1
6	Random Color Wire	10cm	3
7	DC-005 Power Socket		1
8	AUX Socket		2
9	BL-5C Battery Box		1
10	BL-5C Battery Rechargeable	4.2V	1
11	FM Bluetooth Receiver		1
12	FM Antenna		1
13	Silicone Seat Cushion		4
14	Infrared Remote Controller		1
15	AUX Audio Wire		1
16	4.2V Battery Charger		1
17	USB-DC005 Power Wire		1
18	Transparent Acrylic Board		6
19	M2*10mm Screw		22
20	M2 Nut		22

6.Application:

- 1>.Training welding skills
- 2>.Student school
- 3>.DIY production
- 4>.Project Design

- 5>.Electronic competition
- 6>.Gift giving
- 7>.Crafts collection
- 8>.Home decoration
- 9>.Souvenir collection
- 10>.Graduation design
- 11>.Holiday gift

8.Note:

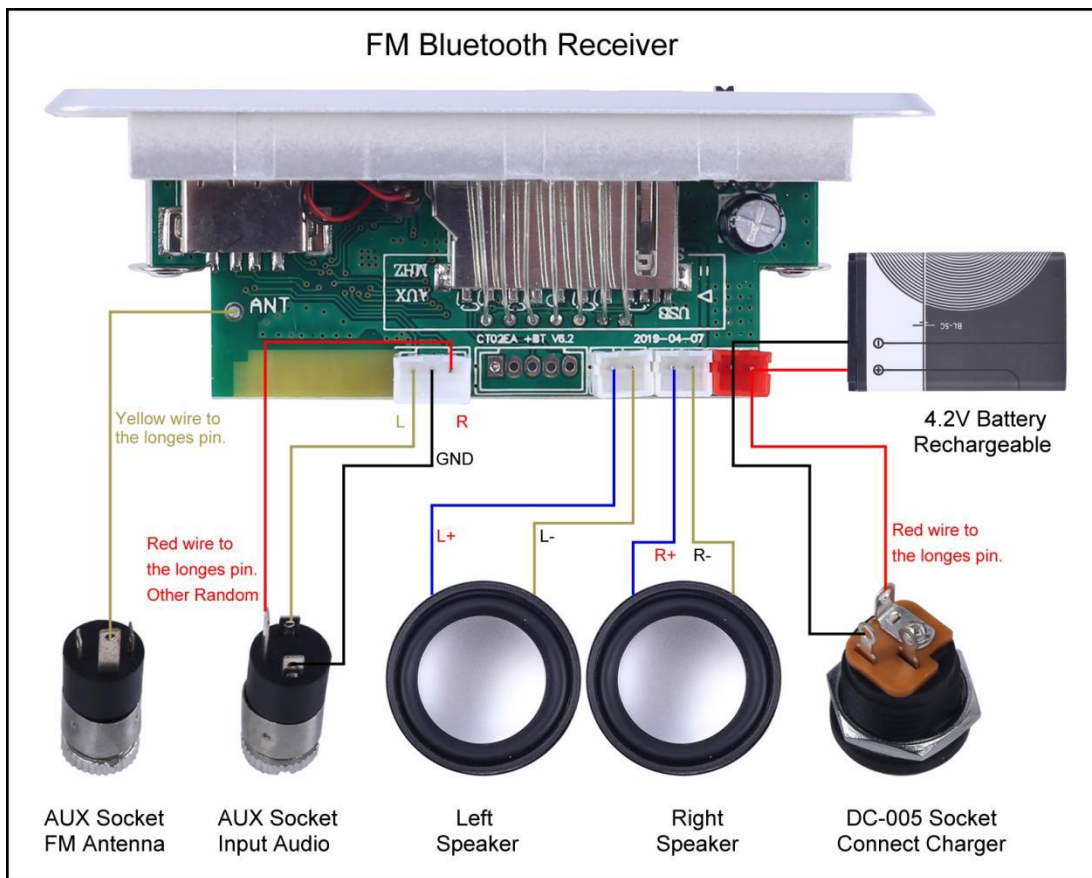
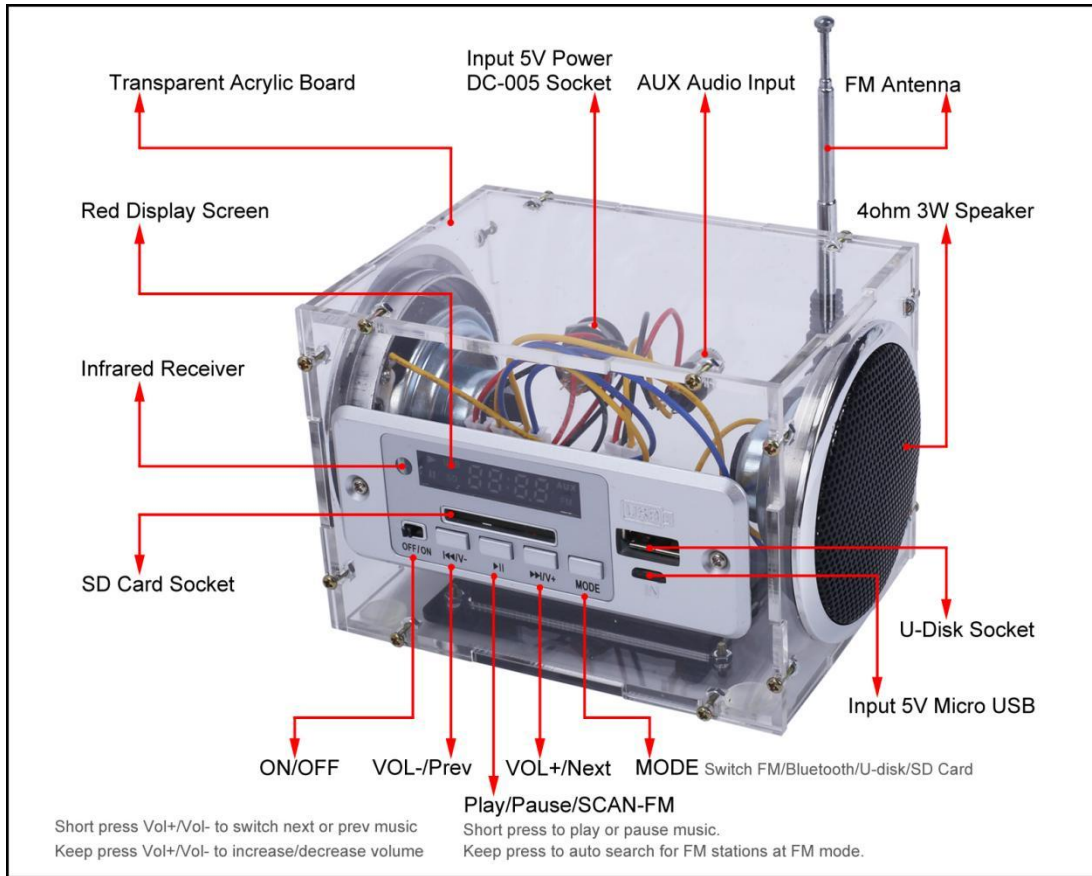
- 1>.Please be patient until the installation is complete.
- 2>.The package is DIY kit.It need finish install by user.
- 3>.All buttons are not available when playing the built-in voice prompt tone such as playing 'Bluetooth Device connected'
- 4>.It is still working and continuously slightly depleting battery power after switch to OFF.
- 5>.It is strongly recommended to read the installation manual before starting installation!!!

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

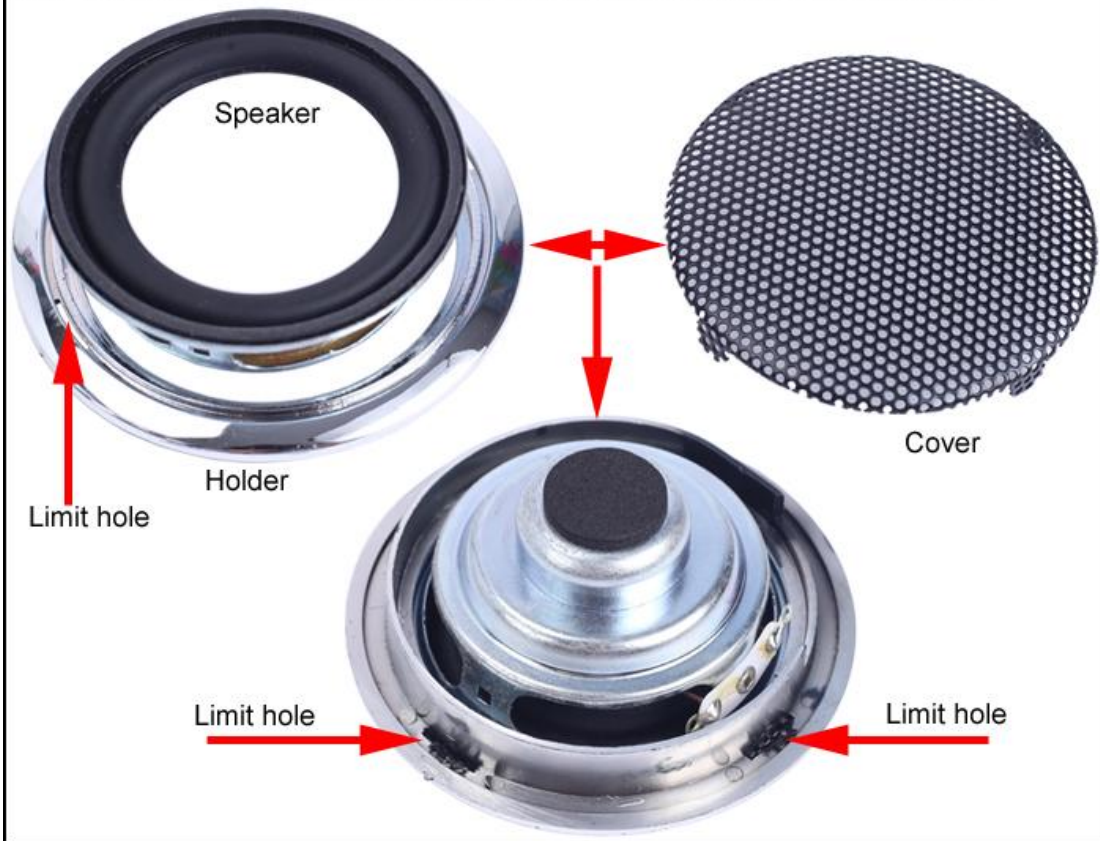
- 1>.Step 1: Place according to the diagram and install Speaker, Holder and Cover.
- 2>.Step 2: Using a screwdriver or pliers, bend the four fixing holes of the Cover.
- 3>.Step 3: Tear off the protective film on the surface of the acrylic boards.
- 4>.Step 4: Fix speaker acrylic board on Speaker Holder. Due to the need to fix the speaker to avoid movement, the acrylic and speaker are relatively tight.
- 5>.Step 5: Fix XH2.54-2P Wire on Speaker.
- 6>.Step 6: Fix 3pcs 10cm Wire on FM Bluetooth Receiver. Tips: Red wire connect to '5V' pad; Black wire connect to 'GND' pad; Yellow wire connect to 'ANT' pad.
- 7>.Step 7: Fix DC-005 Power Socket and AUX Socket on another acrylic board by corresponding nuts as showing. It is recommended to follow the direction shown in the diagram for easy installation guidance in the future.
- 8>.Step 8: Connect XH2.54-3P Wire in the middle AUX Socket as showing. Note: Red wire connect to the longest pin. Yellow and black wires can be connected arbitrarily.
- 9>.Step 9: Fix 4.2V BL-5C Battery Box on another acrylic board by 4pcs M2*10mm Screw and 4pcs M2 Nut.
- 10>.Step 10: Fix XH2.54-3P Wire on 4.2V BL-5C Battery Box. Pay attention to the position of the red and black wires.
- 11>.Step 11: Fix FM Bluetooth Receiver on another acrylic board by Screw and Nut.
- 12>.Step 12: Connect FM Bluetooth Receiver to Power Socket and AUX Socket. Red wire connect to the longest pin and black wire connect to the shorter pin as showing position from Power Socket. Yellow pin connect the longest pin of the another AUX Socket.
- 13>.Step 13: Fix Receiver and Battery Box acrylic boards by Screw and Nut.
- 14>.Step 14: Fix Power Socket acrylic boards by Screw and Nut as showing.
- 15>.Step 15: Fix Speaker acrylic boards by Screw and Nut as showing.
- 16>.Step 16: Fix another Speaker acrylic boards by Screw and Nut as showing.
- 17>.Step 17: Connect XH2.54-3P wire from the middle AUX Socket to XH2.54-3P Socket on Receiver. Two XH2.54-2P wires from speakers to two white XH2.54-2P Socket. XH2.54-2P wire from Power Socket to Red XH2.54-2P Socket.
- 18>.Step 18: Fix the last acrylic board by Screw and Nut.
- 19>.Step 19: Install FM Antenna.
- 20>.Step 20: Paste Silicone Seat Cushion on the bottom acrylic board.

10.Install shown steps:

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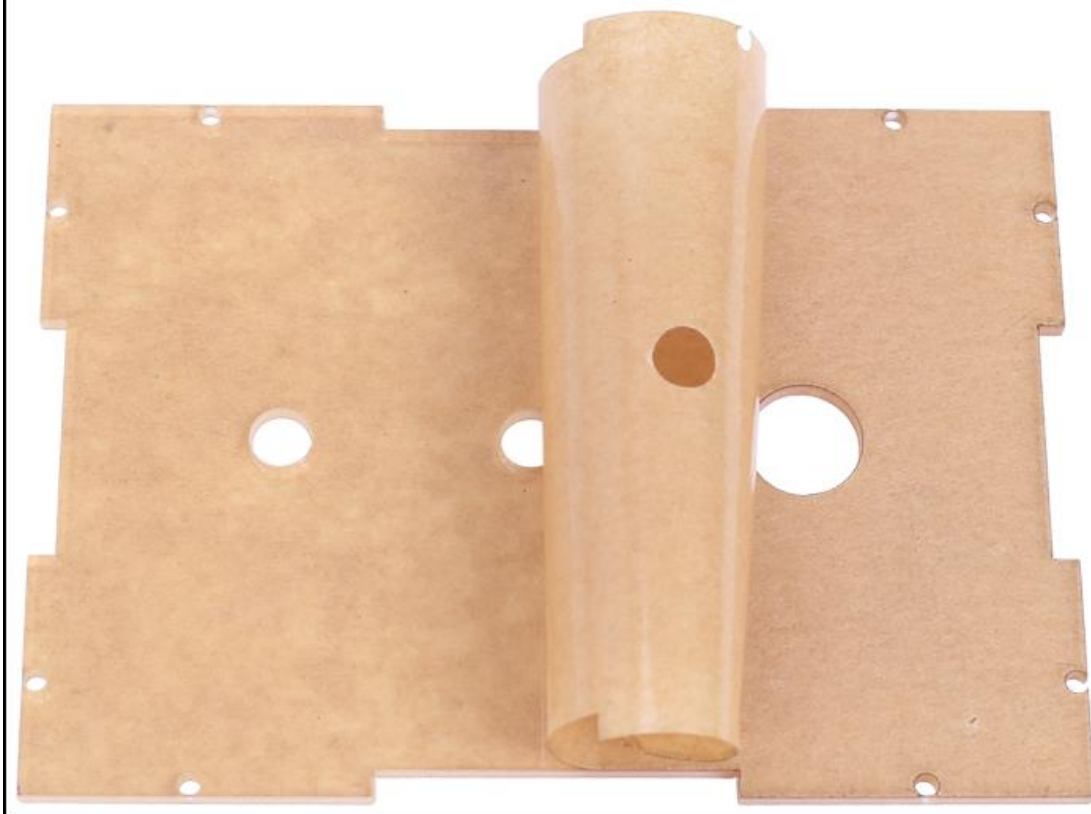
Step 1: Place according to the diagram and install Speaker, Holder and Cover.



Step 2: Using a screwdriver or pliers, bend the four fixing holes of the Cover.



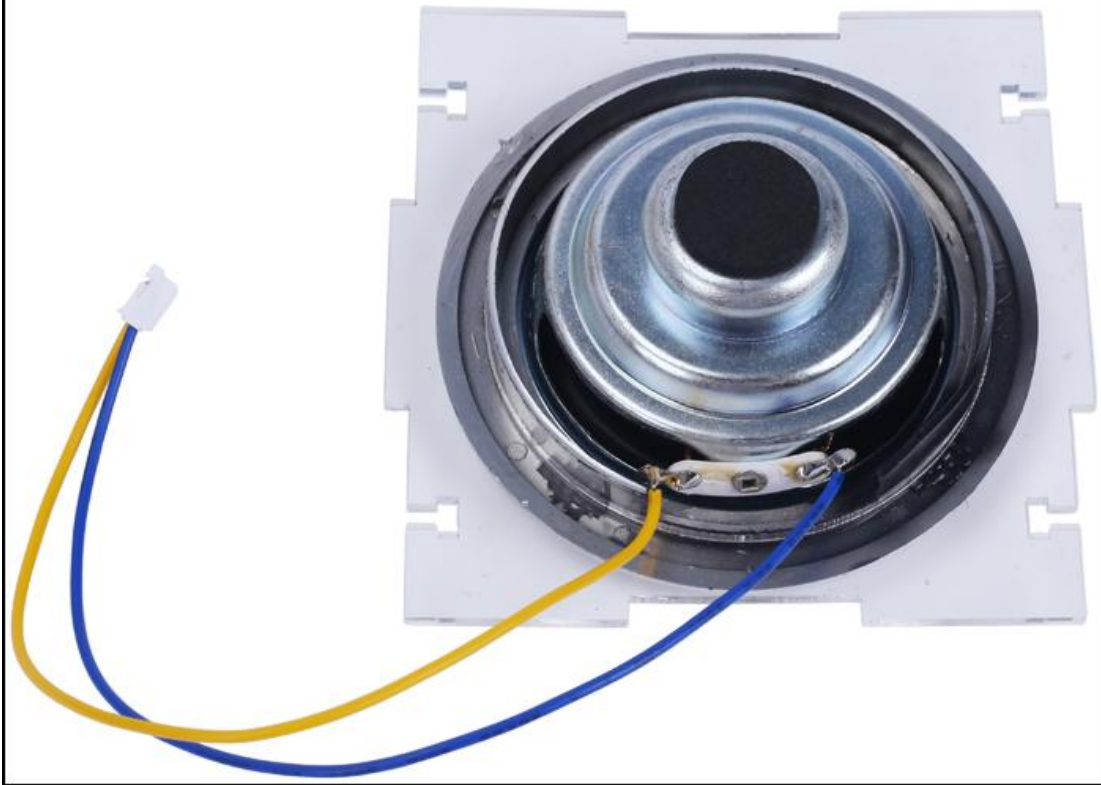
Step 3: Tear off the protective film on the surface of the acrylic boards.



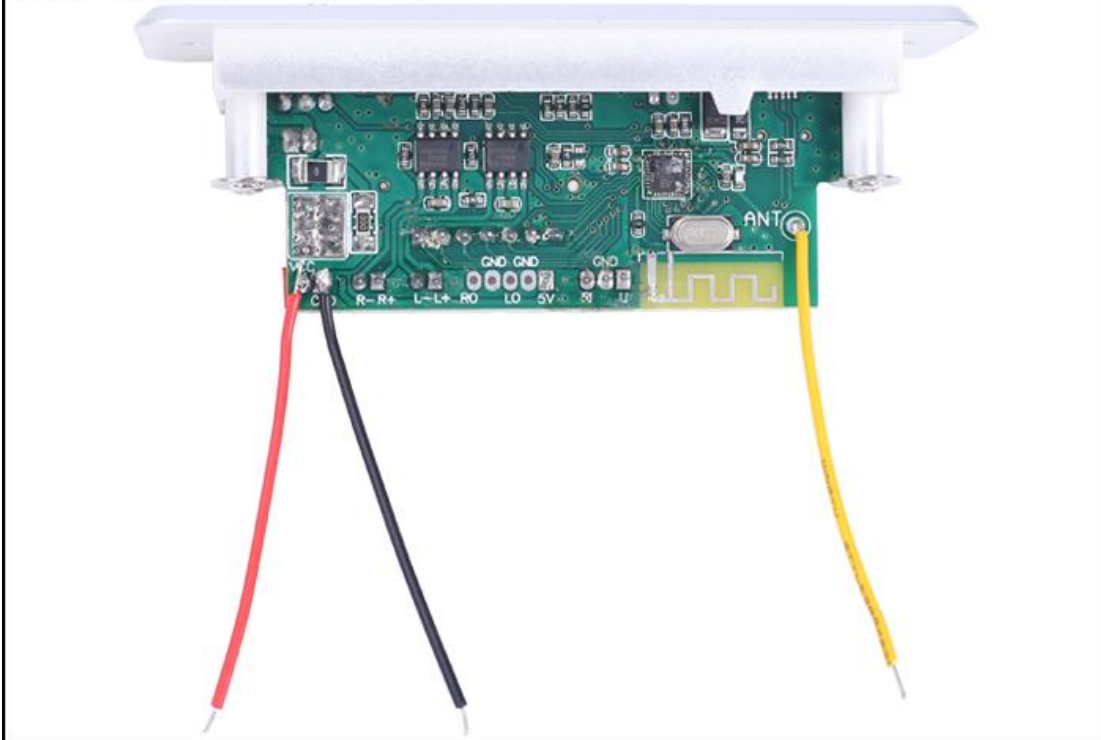
Step 4: Fix speaker acrylic board on Speaker Holder. Due to the need to fix the speaker to avoid movement, the acrylic and speaker are relatively tight.



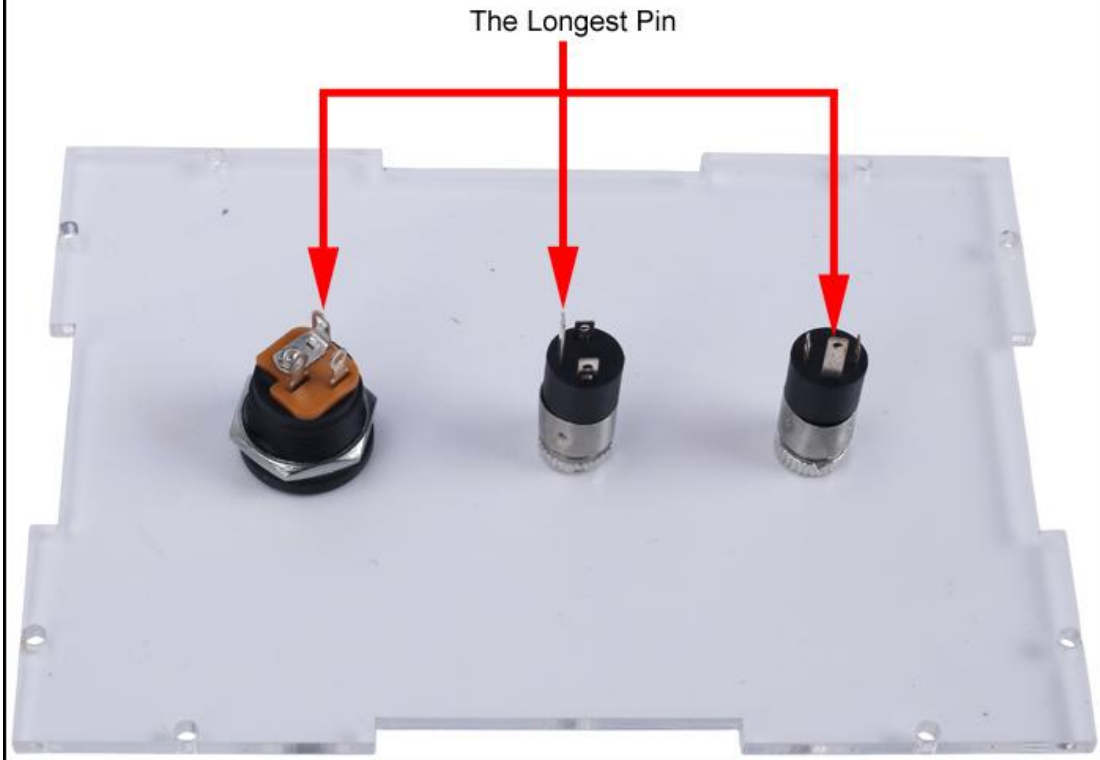
Step 5: Fix XH2.54-2P Wire on Speaker.



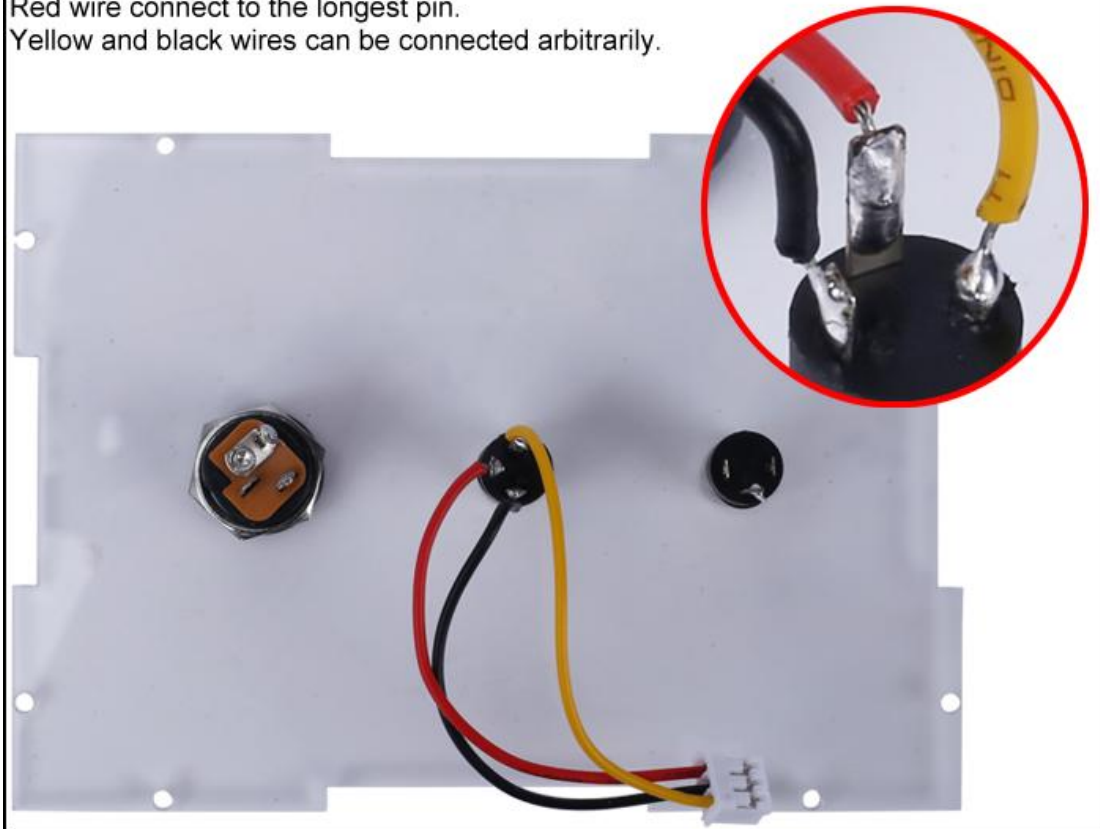
Step 6: Fix 3pcs 10cm Wire on FM Bluetooth Receiver. Tips:
Red wire connect to '5V' pad;
Black wire connect to 'GND' pad;
Yellow wire connect to 'ANT' pad.



Step 7: Fix DC-005 Power Socket and AUX Socket on another acrylic board by corresponding nuts as showing. It is recommended to follow the direction shown in the diagram for easy installation guidance in the future.



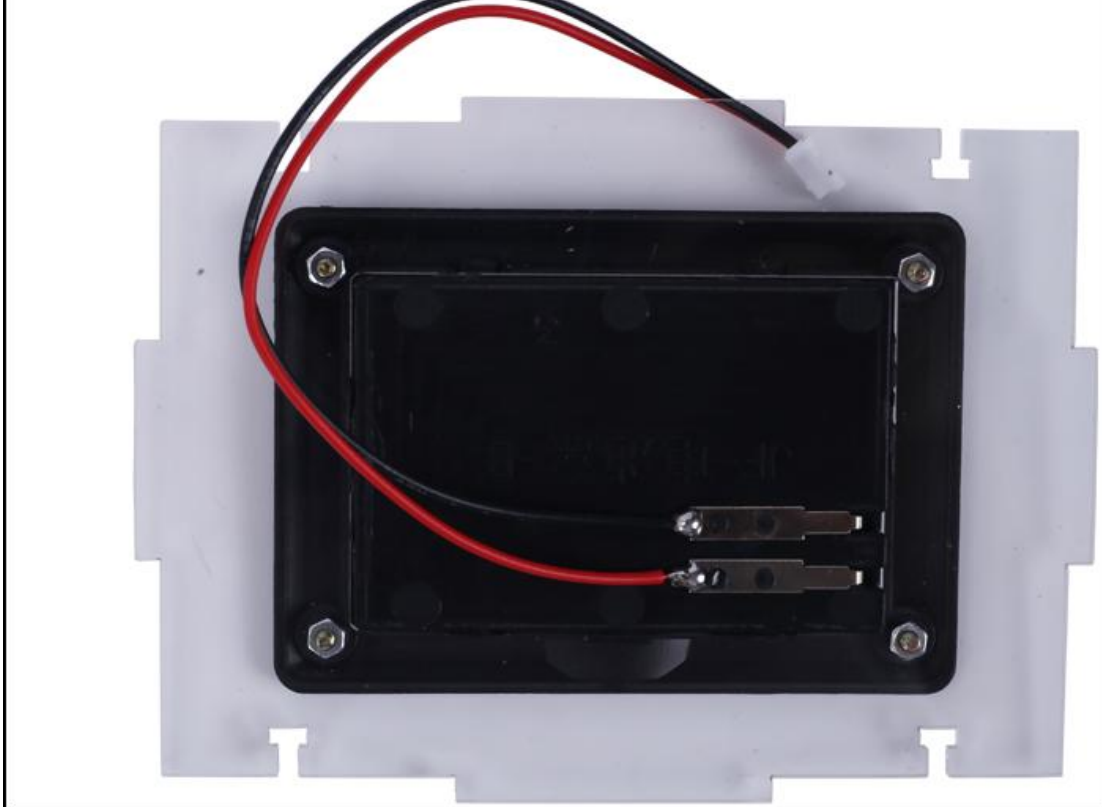
Step 8: Connect XH2.54-3P Wire in the middle AUX Socket as showing. Note: Red wire connect to the longest pin. Yellow and black wires can be connected arbitrarily.



Step 9: Fix 4.2V BL-5C Battery Box on another acrylic board by 4pcs M2*10mm Screw and 4pcs M2 Nut.



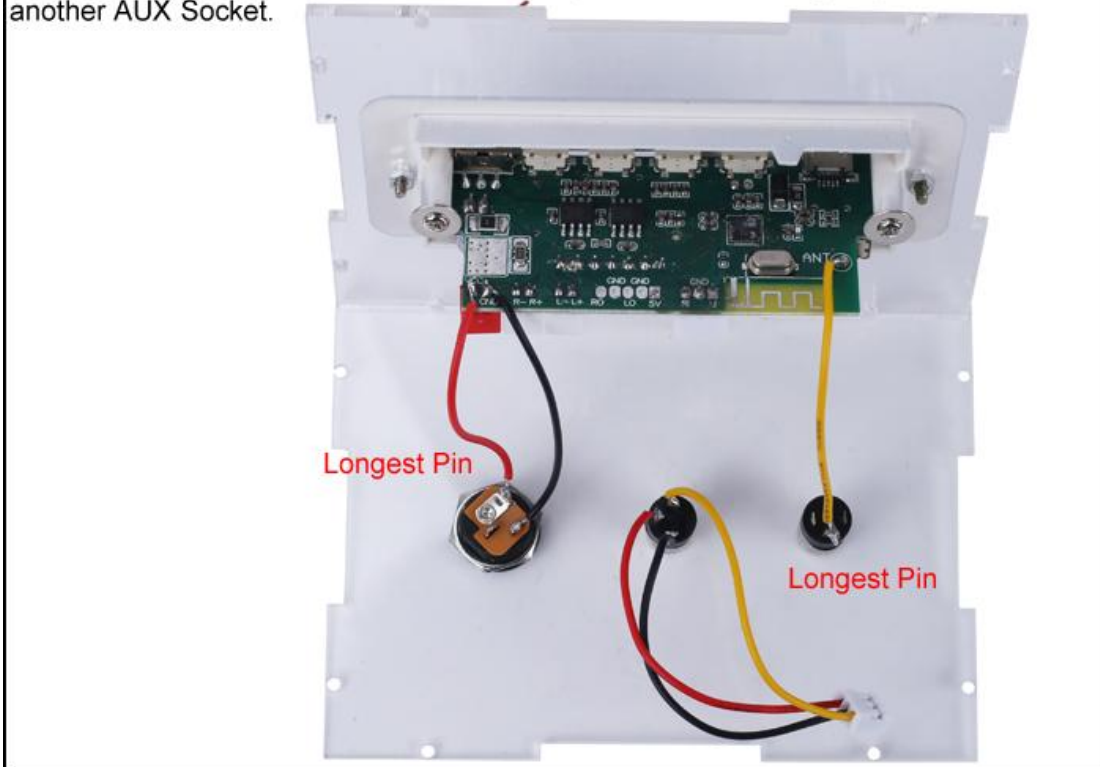
Step 10: Fix XH2.54-3P Wire on 4.2V BL-5C Battery Box. Pay attention to the position of the red and black wires.



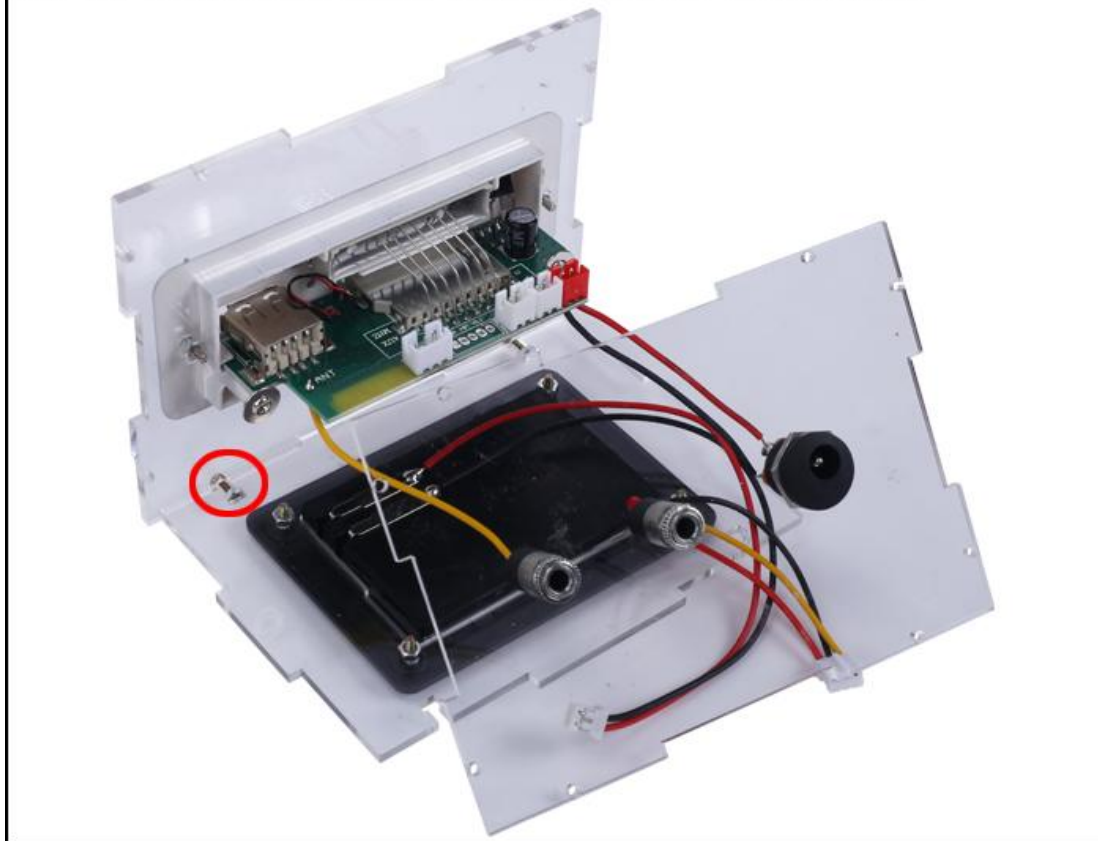
Step 11: Fix FM Bluetooth Receiver on another acrylic board by Screw and Nut.



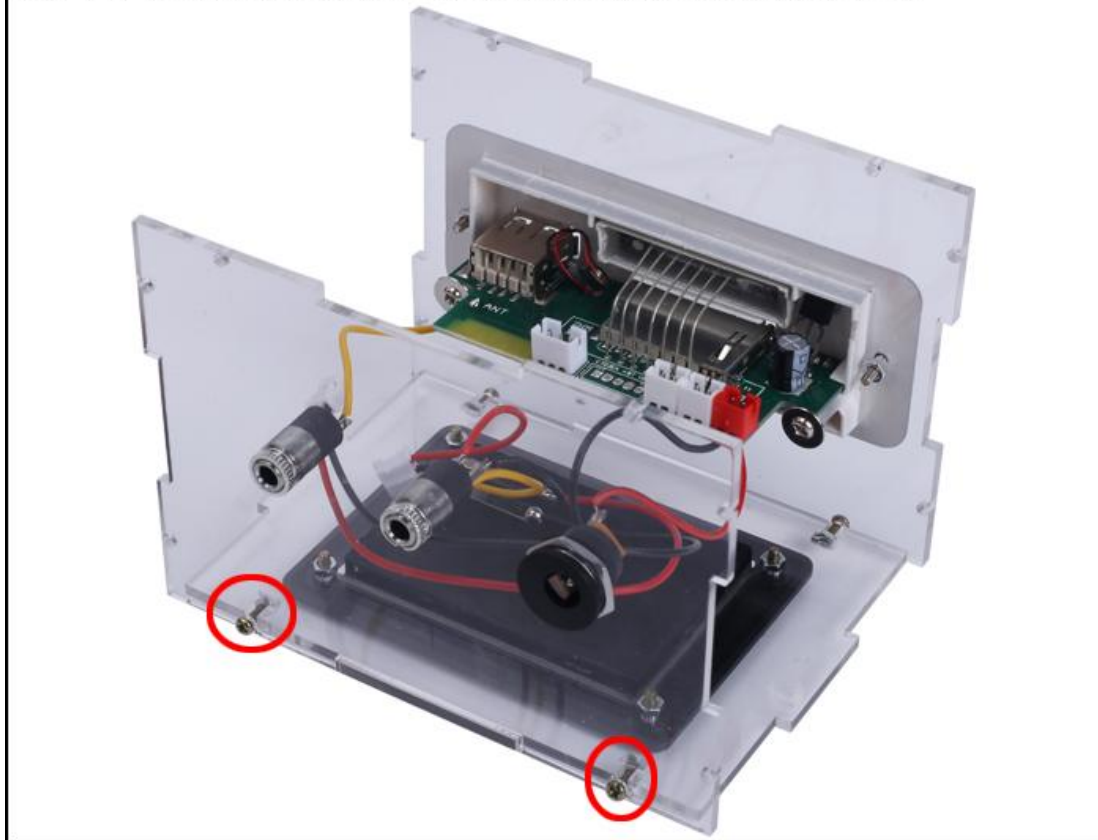
Step 12: Connect FM Bluetooth Receiver to Power Socket and AUX Socket. Red wire connect to the longest pin and black wire connect to the shorter pin as showing position from Power Socket. Yellow pin connect the longest pin of the another AUX Socket.



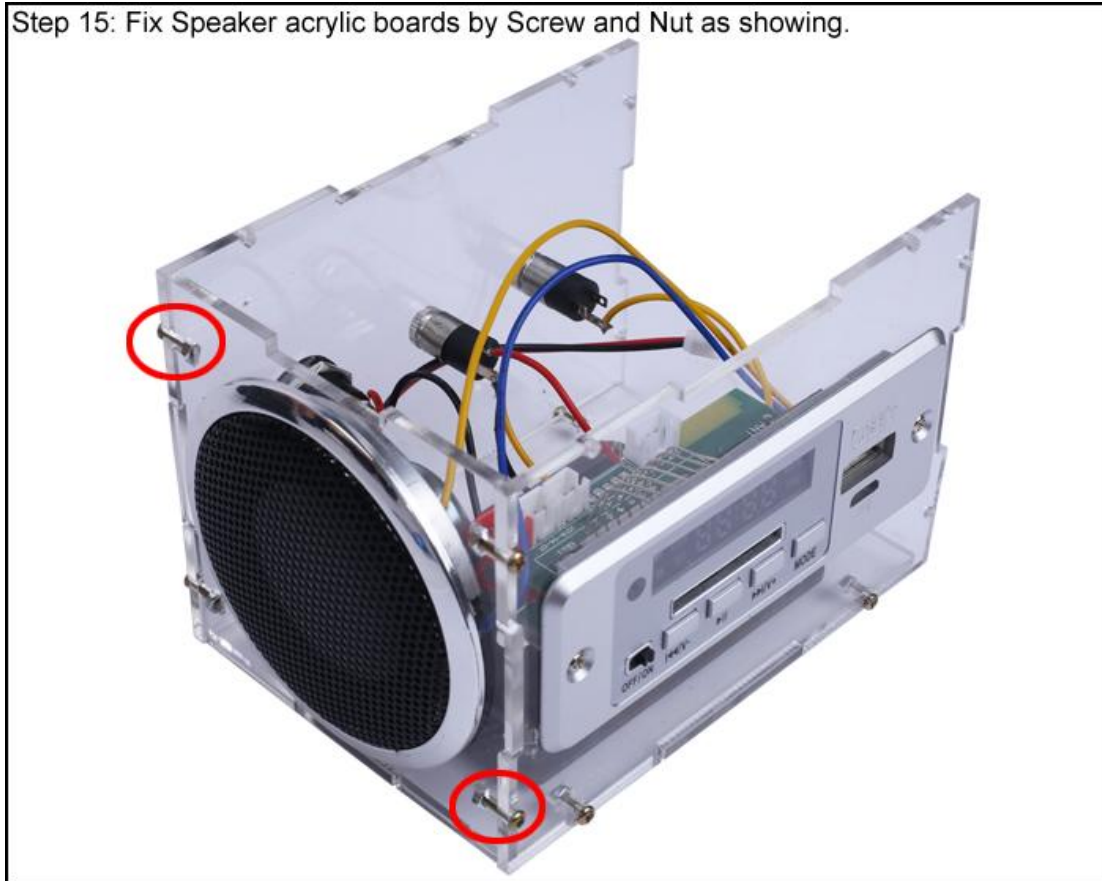
Step 13: Fix Receiver and Battery Box acrylic boards by Screw and Nut.



Step 14: Fix Power Socket acrylic boards by Screw and Nut as showing.



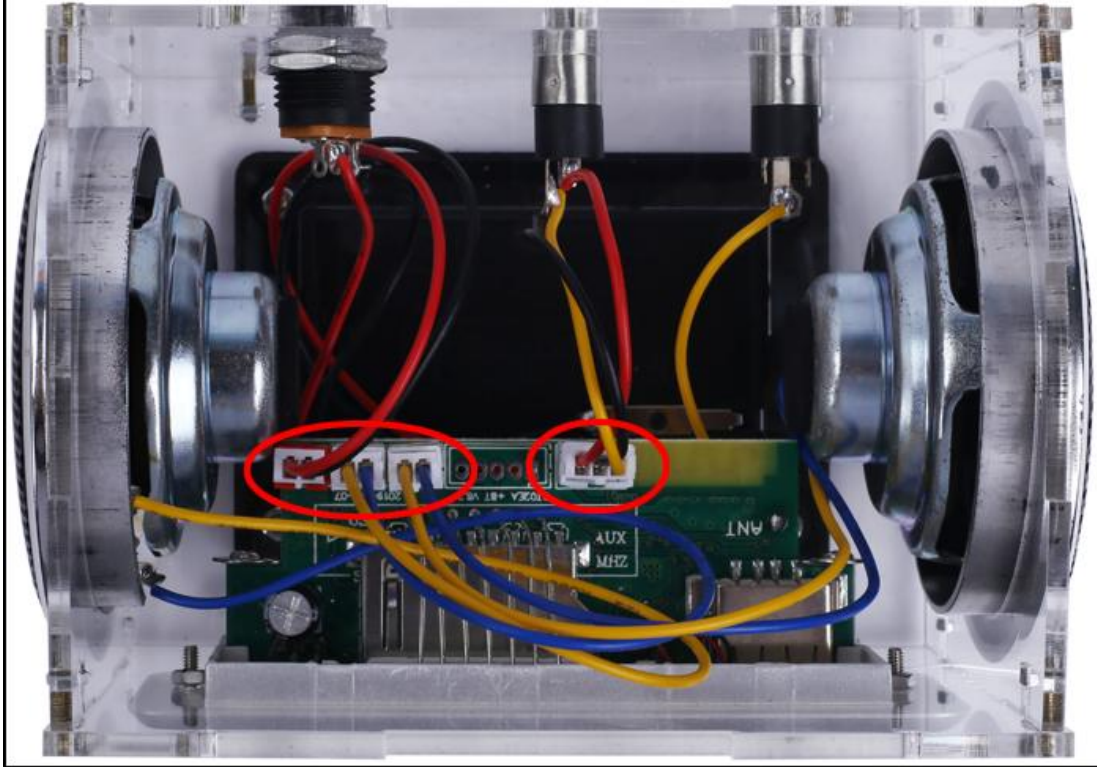
Step 15: Fix Speaker acrylic boards by Screw and Nut as showing.



Step 16: Fix another Speaker acrylic boards by Screw and Nut as showing.



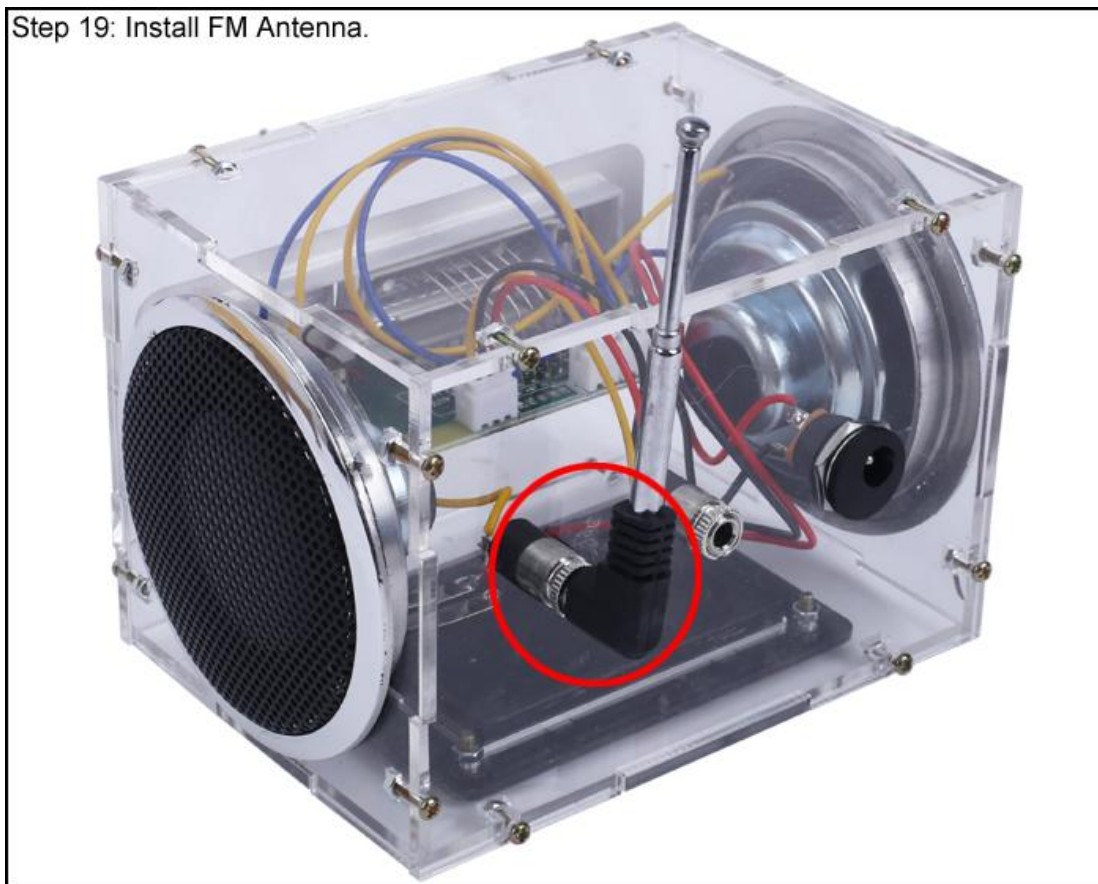
Step 17: Connect XH2.54-3P wire from the middle AUX Socket to XH2.54-3P Socket on Receiver. Two XH2.54-2P wires from speakers to two white XH2.54-2P Socket. XH2.54-2P wire from Power Socket to Red XH2.54-2P Socket.



Step 18: Fix the last acrylic board by Screw and Nut.



Step 19: Install FM Antenna.



Step 20: Paste Silicone Seat Cushion on the bottom acrylic board.

