



**ICs & Robot Gadgets**

Easy Deal Easy Fun

## XY-S100H Subwoofer Treble Bass Bluetooth Amplifier

### 1. Description:

XY-S100H is a DC 12V 24V 50W+50W+100W HIFI Bluetooth 2.1 Amplifier Audio Module with Stereo Treble Bass Subwoofer, perfect for DIY wireless Bluetooth speakers and transponders. This module can receive Bluetooth music, as well as AUX and USB audio input.

This Bluetooth amplifier module is ideal for those who want to add a surround sound experience to their home theater, KTV, outdoor parties, and more. With its powerful 50W/100W output and adjustable volume control, you can customize the sound according to your preference. It is also easy to install and use, allowing you to enjoy an immersive sound experience with minimal effort.

### 2. Features:

1>. **Treble/Bass/Subwoofer**: It has a built-in TPA3116D2 amplifier chip and adopts the Bluetooth version 2.1 specification which can drive 50W\*2 Stereo and 100W Subwoofer with aluminum heat sink with DC 5V-24V work voltage and more than 10A current. Supports independent volume adjustment for treble/bass/subwoofer.

2>. **Bluetooth APP Control** : It can not only be used as an ordinary Bluetooth receiver, but also use the special Bluetooth APP 'SiniLink' to Modify Bluetooth Name, ON/OFF Bluetooth Password, Modify Bluetooth Password, ON/OFF Prompt Voice, Adjust Volume for Prompt Voice.

3>. **HIFI Player**: It can provide pure HIFI music playback, transparent treble, gentle baritone and shocking bass which meeting the music control needs of different scenarios. It also can support active audio output for headset or others amplifier and passive audio output for speakers.

4>. **Bluetooth/AUX/USB Audio**: It can not only receive music via Bluetooth, but also via AUX/USB to fit different needs.

5>. **Protection Function** : It has multiple protection mechanisms to ensure its safe operation with over-current protection, short-circuit protection, overheating protection, over-voltage protection, under-voltage protection. Recommended to use more than 10A current to get more clear, bright and high fidelity sound.

6>. **Easy to use**: It is equipped with an adjustable volume control, allowing users to customize the sound according to their preference. Furthermore, it also provides functions such as switching to the next music, playing/pausing music, and turning on/off the power.

### 3. Functions:

- 1>. Bluetooth APP Control
- 2>. HIFI Audio Player
- 3>. Bluetooth/AUX/USB Audio Input
- 4>. 50W+50W Dual Channel Stereo
- 5>. 20Hz~200Hz 100W Subwoofer
- 6>. Modify Bluetooth Name
- 7>. ON/OFF Bluetooth Password
- 8>. Modify Bluetooth Password

- 9>.ON/OFF Prompt Voice
- 10>.Adjust Volume for Prompt Voice
- 11>.Active/Passive audio output
- 12>.360° Infinite Adjust Volume

#### 4.Parameters:

- 1>.Work Voltage: DC 5V-24V
- 2>.Work Current: >10A
- 3>.Bluetooth: BLE 5.0
- 4>.Controller IC: TPA3116D2
- 5>.Unique function: SiniLink APP control
- 6>.Channel: 2.1 channel stereo output
- 7>.Audio input type: Bluetooth/AUX/USB
- 8>.Audio output type: Left/Right/Subwoofer
- 9>.Stereo Speaker Output: 10W-100W, 4ohm-8ohm
- 10>.Subwoofer Speaker Output: 20W-200W, 4ohm-8ohm
- 11>.Communication distance: 15meter(Max)
- 12>.Frequency Range: 20Hz-30KHz
- 13>.SNR: 92dB
- 14>.Over temperature protection: Yes
- 15>.Over current protection: Yes
- 16>.Short circuit protection: Yes
- 17>.Over voltage protection: Yes
- 18>.Under voltage protection: Yes
- 19>.Work Temperature: -20°C~85°C
- 20>.Work Humidity: 5%~95%RH
- 21>.Module Size(Installed): 115\*95\*25mm

#### 5.Use steps:

- 1>.Using the wiring diagram, select the correct speakers to connect to the black terminal.
- 2>.Connect the power supply from the DC-005 power socket and wait for the 'ding dong' prompt to indicate the module is ready for pairing.
- 3>.Activate Bluetooth on your phone.
- 4>.From the Bluetooth device list, select the 'XinYi' device.
- 5>.Once the device is selected, the module will prepare start playing music.
- 6>.Adjust the volume using the rotary potentiometer. Rotate the knob clockwise to increase the volume.
- 7>.Click the right potentiometer to play/pause the music.
- 8>.Keep press the right potentiometer to turn ON/OFF power supply.
- 8>.Search/download/open APP Sinilink and register an account if need control by APP. Note: You can choose to log in as a tourist without registering.
- 9>.Click the dot in the left to add device.
- 10>.Select 'Bluetooth devices' and then Search Bluetooth.
- 11>.Select devices 'Sinilink-APP' or 'XinYi' or 'XYV122V....' to connect module.
- 13>.User can reset Bluetooth name, enable/disable/set Bluetooth password, enable/disable Bluetooth prompt tone.
- 12>.User also can adjust volume, select next or previous, play/pause, select EQ for U-disk.
- 13>.XY-S100H will speak prompt voice if disconnected.

## 6.Application:

- 1>.Modified/repair/replace speaker
- 2>.Amplifier equipment for training/activity site and so on
- 3>.Car Bluetooth device
- 4>.Music Festival Party
- 5>.Family entertainment and leisure
- 6>.Games and Cinema
- 7>.Home theater
- 8>.Security system
- 9>.KTV singing hall
- 10>.Home background music

## 7.Note:

- 1>.The heat sink and shell must be installed by the user.
- 2>.The power amplifier board should be placed as far away from the WIFI signal (router) as possible to avoid signal interference.
- 3>.The power supply voltage should be DC 5V-24V with more than 10A current. The module will be damaged if the input voltage is above 25V.
- 4>.It is recommended to use a working power supply of more than 15V.
- 5>.Avoid signal interference by not using excessively long wires.
- 6>.The audio input and power supply voltage/current must both be sufficient to ensure enough power output.
- 7>.The higher the power supply voltage, the greater the output power.
- 8>.The smaller the impedance of the speaker, the greater the output power. It is recommended to use 4ohm speakers.
- 9>.Please read the user manual and product description carefully before use.

## 8.Frequently Asked Questions:

### **Q1. How to choose a power supply adapter?**

A: The power supply for the module is very important and must be used with caution. The ripple of the selected power supply should be kept to a minimum as a large ripple will cause the background noise of the power amplifier board to increase and a current sound will be produced.

A power adapter with a 5.5\*2.1mm or 5.5\*2.5mm plug is required, and it is recommended to use a 15V power supply with a current of more than 10A. The higher the voltage and current, the better the output power. For power voltages lower than 21V, it is best to connect a 4ohm speaker. If an 8ohm speaker is used, 24V voltage is recommended.

Input voltages higher than 25V may damage the module. Low voltage inputs will distort the sound after amplification and low currents will not be able to drive the speaker properly or will pull the voltage down, resulting in abnormal operation or poor sound quality. If a low powered adapter such as a 12V 2A adapter is used, it is advised to NOT adjust the volume to the maximum as this may cause distortion and affect the sound quality.

### **Q2.How to choose speakers?**

A: Commonly used speakers usually have an impedance of 4ohm to 8ohm and do not require distinguishing between positive and negative polarity.

For right/left channel speakers, it can drive 50W\*2 power continuously and can connect 10W to 100W speaker in all frequency.

For subwoofer speaker, it can drive 100W power continuously and can connect 20W to 200W

speaker in 2ohm to 8ohm within frequency 20Hz~200Hz. The lower the power of the speaker, the lower the input power required.

**Q3.How to choose Bluetooth or AUX/USB audio input mode?**

A: AUX/USB mode has priority over Bluetooth mode. User need disconnect AUX or USB if use Bluetooth as input audio signal. The priority of connecting first is high for AUX and USB.

**Q4.Why is the volume working normally when volume small and there is turbidity after increase volume?**

A: If there is sound distortion, try changing the adapter power supply to one with a higher voltage and current or turn down the volume.

**Q5.Why is the volume working normally when volume small and there is pause after increase volume?**

A: The input power is insufficient. Try using an adapter power supply with higher voltage and current. The power supply has an intermittent power-off protection feature. Use a power adapter that matches the requirements.

If the power of the power supply is too high, reduce the power of the input power.

If the power amplifier board is too hot, triggering the overheat protection, increase the size of the radiator.

**Q6.What factors are related to the sound quality?**

A: The sound quality is not just determined by the power amplifier module, but also by the power supply, sound source and the entire sound system. Every component of the sound system affects the sound quality, including the audio transmission line, audio power supply, tone circuit, power amplifier circuit, speaker and surrounding environment.

The sound quality is at its best when the sound source, power supply, power amplifier module and speaker are all well-matched.

**Q7.How to adjust main volume?**

A: The MASTER-VOLUME potentiometer is used to adjust main volume.

Turn the potentiometer to the right to increase the main volume.

Turn the potentiometer to the left to decrease the main volume.

Main volume affects both left/right channels and subwoofer volume.

**Q8. How to adjust Treble/Bass volume?**

A: R&L CHANNEL-BASS potentiometer is used to control bass. Turn right to enhance bass volume and turn left to attenuate bass volume. The bass is not enhanced or attenuated when the potentiometer is in the rightmost position.

R&L CHANNEL-TREBLE potentiometer is used to control treble. Turn right to enhance treble volume and turn left to attenuate treble volume. The treble is not enhanced or attenuated when the potentiometer is in the middle position.

It means that the gain of the treble or bass adjustment is too large if the sound is distorted when the treble or bass is adjusted to the right to close to the maximum. User needs to turn the treble or bass potentiometer to the left to lower the gain or turn the MASTER-VOLUME potentiometer to the left to reduce the total volume.

**Q9.How to adjust subwoofer volume and frequency?**

A: SUBWOOFER-VOLUME potentiometer is used to control subwoofer volume. Turn right to enhance volume and turn left to attenuate volume.

SUBWOOFER-FREQ potentiometer is used to control subwoofer cut-off frequency. Turn right to

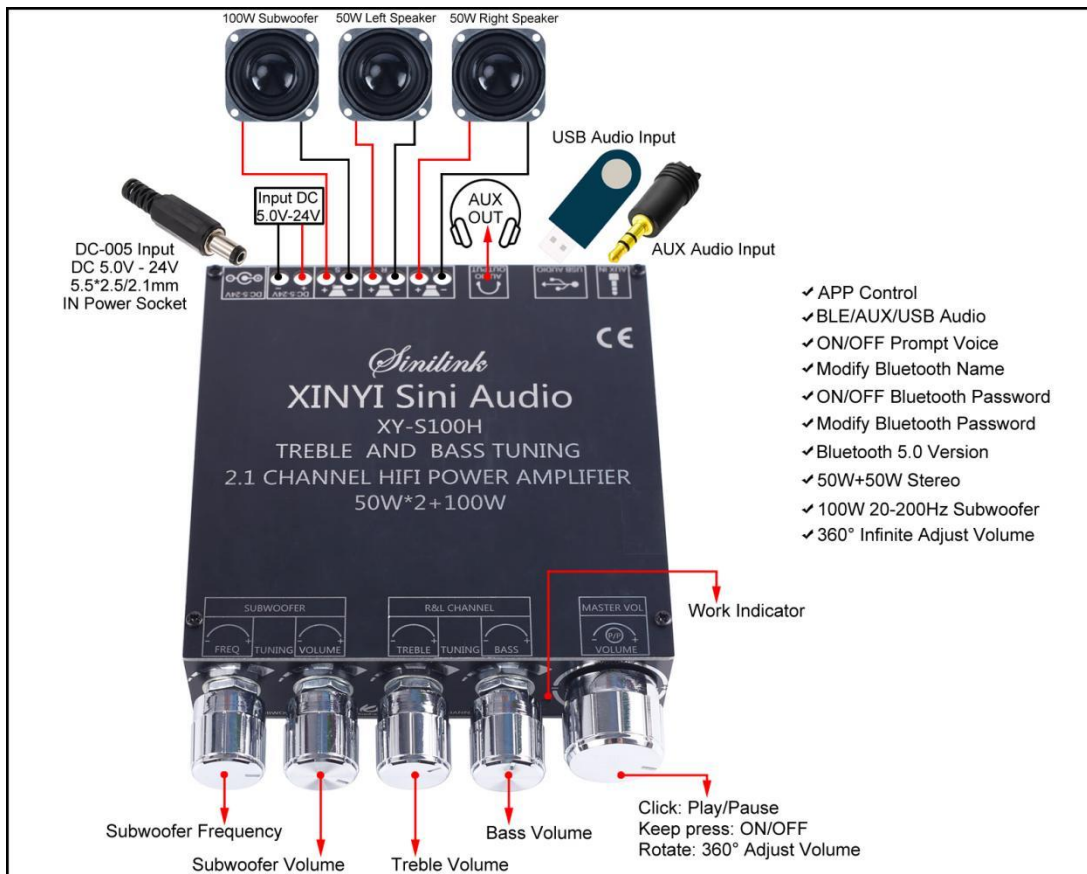
increase frequency and turn left to decrease frequency. Frequency adjustment range is 20Hz-200Hz.

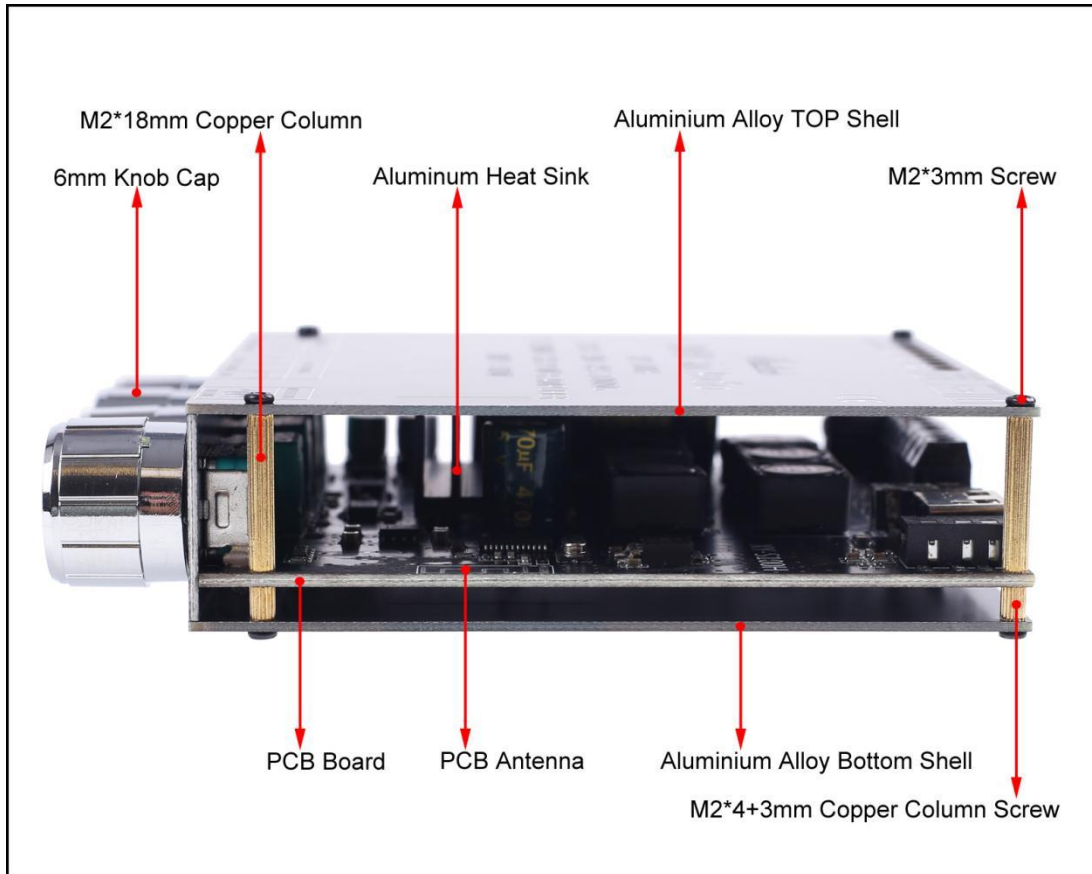
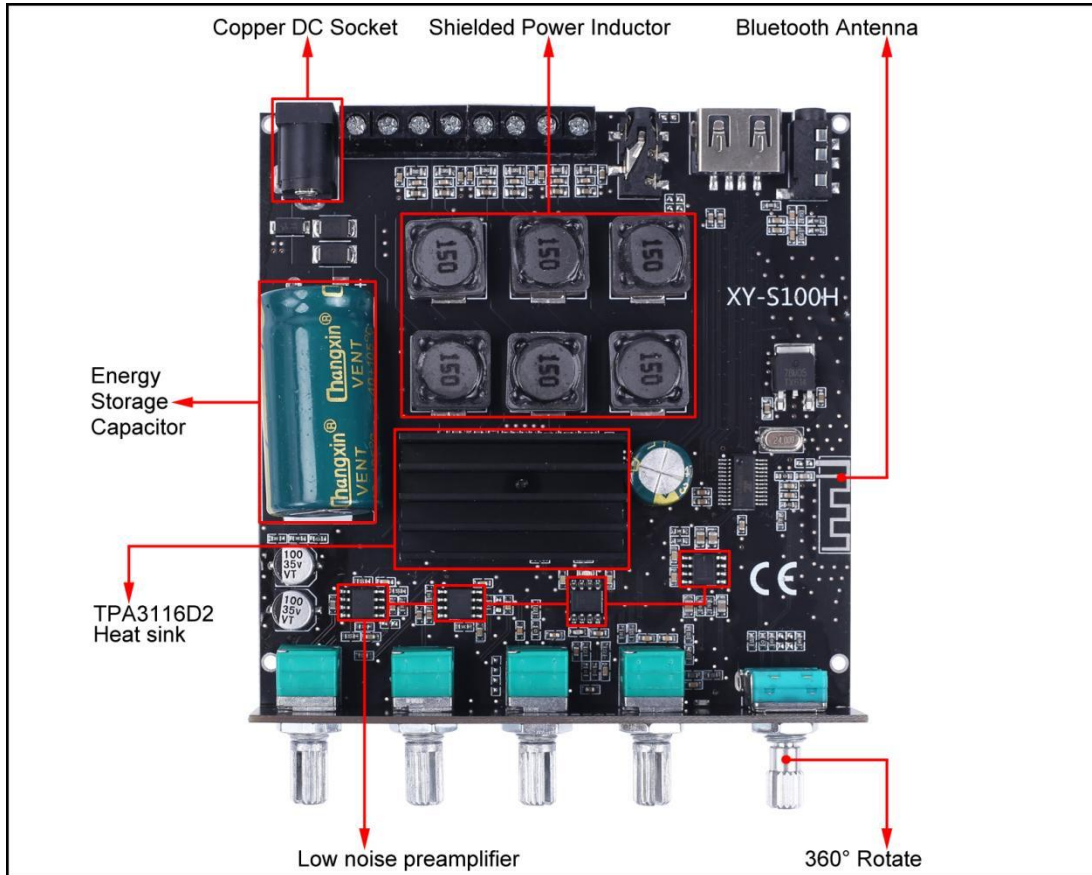
## 9.Package:

- 1pcs XY-S100H 50W\*2+100W 2.1 Bluetooth Amplifier Module
- 2pcs Aluminium Alloy Shell
- 5pcs 6mm knob cap
- 1pcs '+' Screwdriver
- 4pcs M2\*18mm Copper column
- 4pcs M2\*4+3mm Copper column Screw
- 8pcs M2\*3mm screw

## 10.Aluminium Alloy Shell Installation Steps:

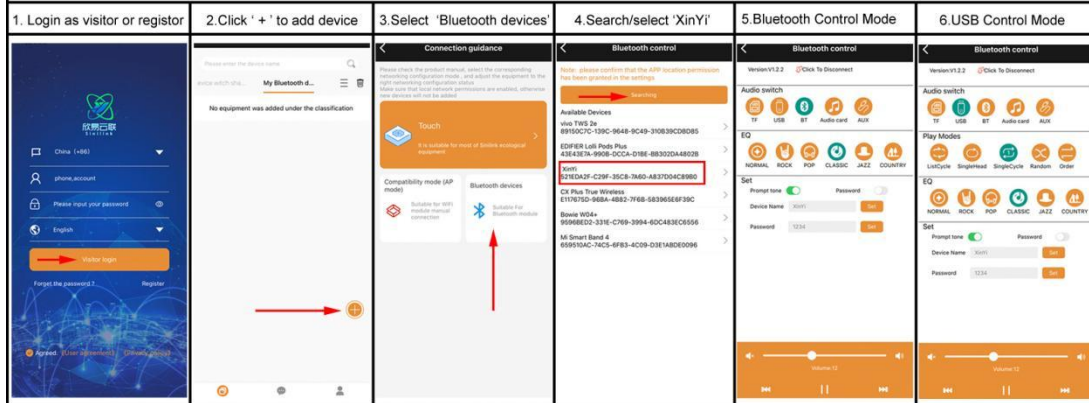
- 1>.Step 1: Fix 4pcs M2\*18mm Copper column on PCB mounting hole by 4pcs M2\*4+3mm Copper column Screw.
- 2>.Step 2: Fix 1pcs Aluminium Alloy Bottom Shell by 4pcs M2\*3mm screw. Pay attention to the front and back sides.
- 3>.Step 3: Fix 1pcs Aluminium Alloy TOP Shell by 4pcs M2\*3mm screw. Pay attention to the front and back sides.
- 4>.Step 4: Insert 5pcs 6mm knob cap onto the potentiometer. The biggest one on the right.







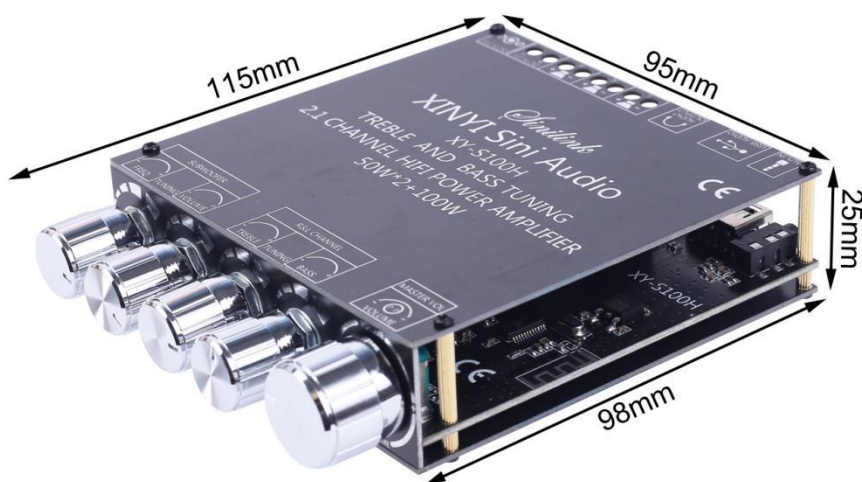
## APP Operation Instructions



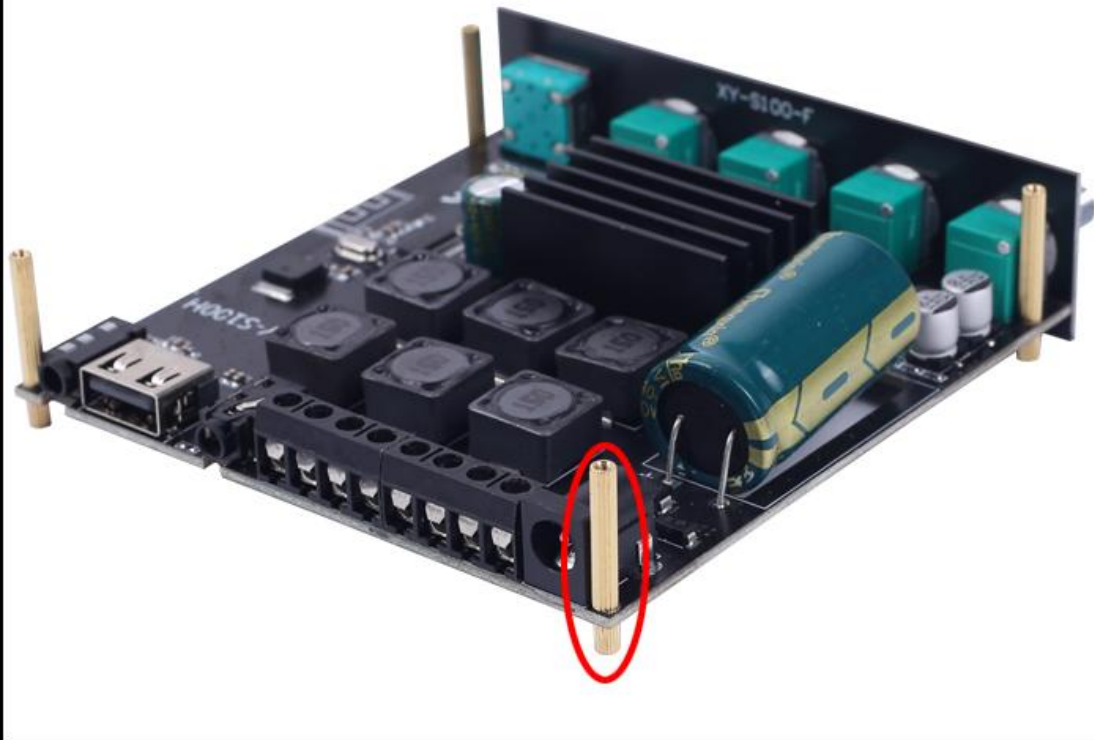
**Note:**

1. Users can directly enter the app as tourists without registering.
2. Tourists can only use the Bluetooth function.
3. At control mode, user can:

- ✓ ON/OFF Prompt Voice
- ✓ Modify Bluetooth Name
- ✓ ON/OFF Bluetooth Password
- ✓ Modify Bluetooth Password
- ✓ Switch Bluetooth/AUX/USB Audio
- ✓ Switch EQ and play mode for USB
- ✓ Adjust Volume for Prompt Voice



Step 1: Fix 4pcs M2\*18mm Copper column on PCB mounting hole by 4pcs M2\*4+3mm Copper column Screw.



Step 2: Fix 1pcs Aluminium Alloy Bottom Shell by 4pcs M2\*3mm screw. Pay attention to the front and back sides.





Step 3: Fix 1pcs Aluminium Alloy TOP Shell by 4pcs M2\*3mm screw. Pay attention to the front and back sides.



Step 4: Insert 5pcs 6mm knob cap onto the potentiometer. The biggest one on the right.

