

ZK-HT21 升级 APP 款 2.1 声道 TDA7498E 蓝牙功放模块 160W*2+220W

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160W + 160W + 220W

ZK-HT21

2.1声道蓝牙功放模块

AUX+蓝牙+USB | 按键切歌切模式



[大功率版]

注意:外壳需要自己组装!

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1. 产品参数

产品参数

产品名称：2.1声道蓝牙音频功放模块

产品型号：ZK-HT21

蓝牙版本：5.0（无遮挡，15米）

输入方式：AUX + 蓝牙+USB（拨轮按键切换模式和歌曲）

声道数：2.1声道（左声道+右声道+低音炮）

功放芯片：TDA7498E

适配电源：DC 15~36 V（低于9V欠压保护，也可支持12V供电）

适配喇叭：30-200W，4-8Ω

输出功率：左右声道≤160W

低音炮≤220W

保护机制：防反接、欠压、过热、过流、短路保护

产品尺寸：145*126*28mm

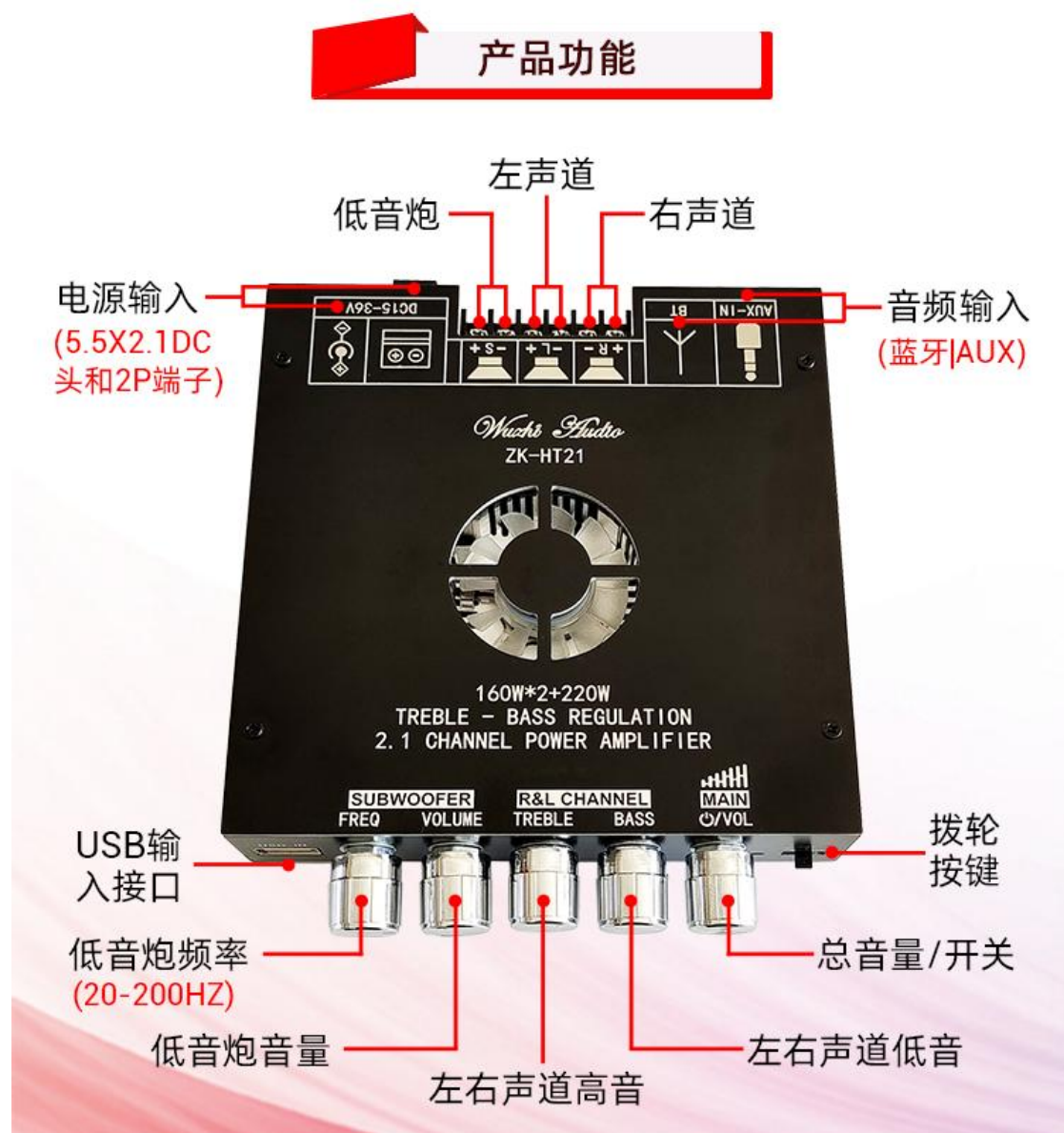
产品重量：净重327g，含包装395g

提示：在音频信号输入足够大，电源电压/电流足够大的情况下，才会有足够的输出功率！

电源电压越高输出功率越大，喇叭阻抗越小输出功率越大！

请确保适配电源功率大于功放实际工作功率！

2. 产品功能



3. 拨轮按键使用介绍

拨轮按键



拨轮按键在中间向内按

短按：暂停/播放
长按：切换模式 (USB/蓝牙/AUX)
三连击：开启或关闭TWS功能



拨轮按键向左拨动

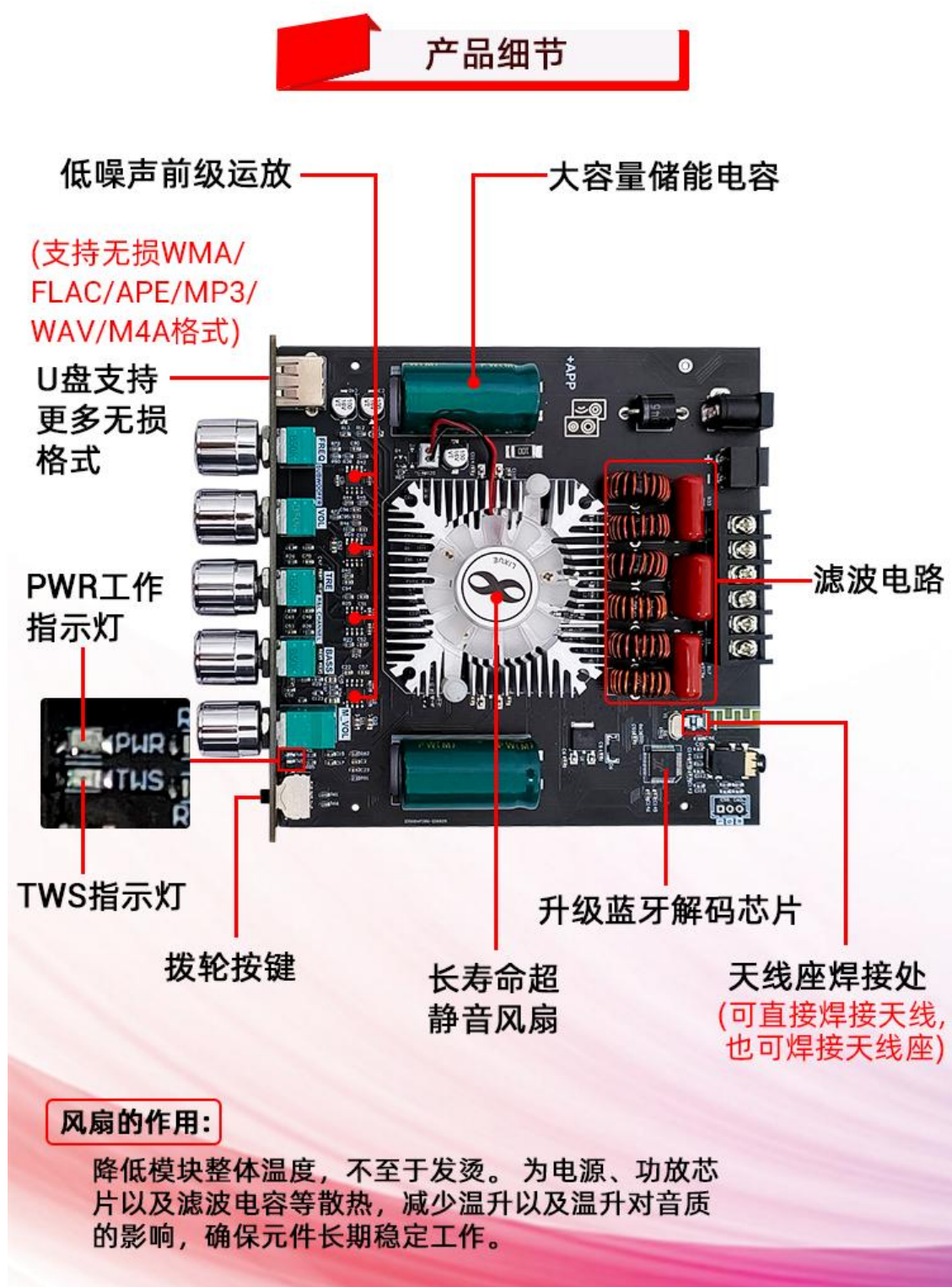
短按：上一曲
长按：音量-



拨轮按键向右拨动

短按：下一曲
长按：音量+

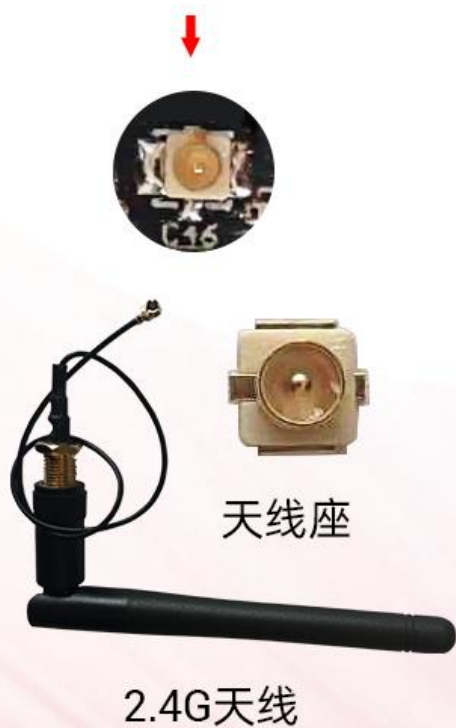
4. 产品细节



5. 焊接示例

焊接示例

天线座焊接示例



天线焊接示例



注意:天线和天线座需自行购买!

6. 对箱功能

对箱功能

TWS互联

两台功放一起用

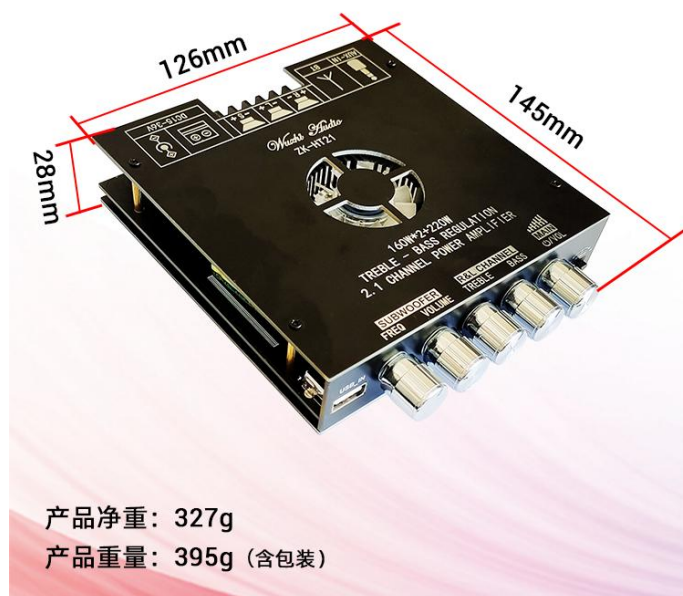


对箱功能操作介绍

- 1 打开两台同型号功放。
- 2 任意选择一台功放，向里三连击带按键功能的总音量旋钮，此时红色TWS指示灯闪烁，另外一台功放与其自动配对为立体声组合。（如果15秒内没有配对成功，会自动取消对箱配对模式，您可再次三连击按键尝试一次）
- 3 如果配对成功，选择的那一台会被分配为左声道，红色指示灯常亮，另一台为右声道，红色指示灯慢闪。
- 4 下次开机，会自动找到对箱。如果想取消对箱模式，只需要选择一台功放，三连击按键即可。

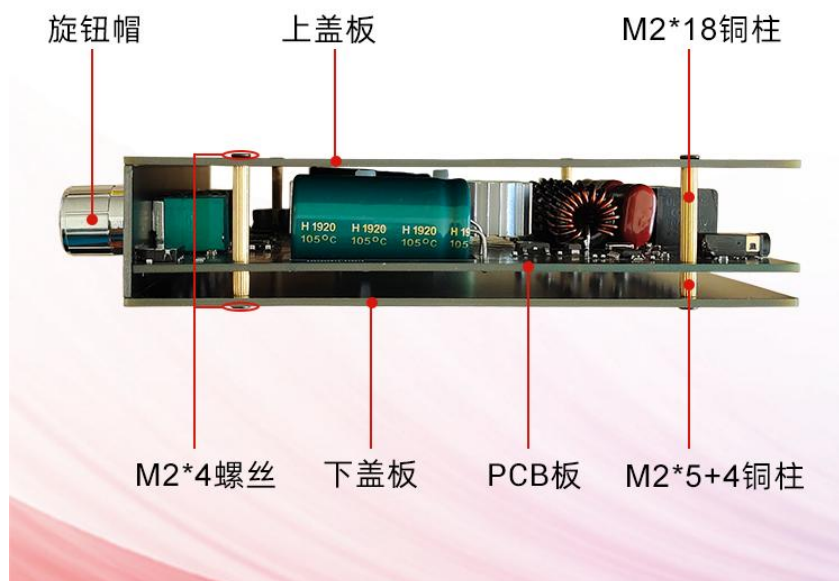
7. 产品尺寸

产品尺寸



8. 安装示意图

安装示意图



9. APP 设置界面

APP设置界面



蓝牙名称修改步骤

【输入新蓝牙名称】→【点设置按钮】→系统自动重启→【手机蓝牙取消与原蓝牙名称配对】→【找到新蓝牙名称重新配对】

蓝牙密码设置步骤

方法一：

【打开蓝牙密码开关】→使用默认密码 1111

方法二：

【打开蓝牙密码开关】→【输入密码】→【点设置按钮】→系统自动重启→【取消配对，再次连接会提示输入密码】

10. 问题解答

答疑解惑

1. 如何选择电源？

板子搭配的电源很关键,所选电源的纹波一定要小,纹波大的电源会导致功放板底噪变大,有电流声。电压越高,电流越大,输出功率越足,要是你只有12V 1A,这样可以带3-4寸音箱。如果你是19V 5A以上,带8-10寸没问题、电源必须高度重视。如果电压太低声音放大后容易引起声音失真,如果电流太小带不起来喇叭会把电压拉低,工作不正常或音质变差。

推荐使用18V19V24V,电流8A以上的电源,或者32V10A以上的电源。如果您只有12V 15V 2A的电源,也可以用但是功率小,使用时音量选到接近最大可能会失真,影响音质。如果想得到最大的输出功率,建议用36V10A以上的适配器,160W~200W 4Ω的喇叭,音量调到最大。

2. 如何选择喇叭？

关于喇叭类型:常用的喇叭一般都是4-8欧姆的,都可以用。左右声道的喇叭需要接全频喇叭或者中高频喇叭,功率在30W-200W之间。低音炮喇叭不能接普通喇叭,需要接带低音炮音箱的喇叭,功率在50-200W之间。低音炮喇叭的下潜频率至少要50Hz。

如果您的喇叭功率小,比如介于20W-50W之间也是可以用的,需要供电电压小一些,防止放大声后烧毁喇叭,比如选15V以下的电源。选择的电压越高,那么可输出的声音或者功率越大。喇叭功率不宜超过200W,否则会影响音质。

3. 音频输入模式介绍

此音频功放模块有三种音频输入方式:一种是蓝牙输入,一种是AUX音频输入,一种是U盘输入。蓝牙模式下,如果插入音频线或者U盘,会自动切换到音频输入模式或U盘输入模式,蓝牙模式优先级最低。在已经插入音频线或U盘的情况下,也可以使用拨轮按键切换模式。

4. 总音量如何调节？

MAIN-VOLUME旋钮是调节总音量的。右旋总音量增大,左旋总音量减小。总音量对左右声道和低音炮的音量都有影响。

5. 左右声道高低音如何调节？

R&L CHANNEL-BASS旋钮是控制低音的,右旋低音增强,左旋低音衰减。当旋钮处于中间位置时,对低音不增强也不衰减。

R&L CHANNEL-TREBLE旋钮是控制高音的,右旋高音增强,左旋高音衰减。当旋钮处于中间位置时,对高音不增强也不衰减。

注意:高音和总音量同时调到最大,容易引起功放保护,出现声音卡顿。将高音降下来或者是将右边的MAIN-VOLUME旋钮左旋,让总音量减小。

6. 低音炮如何调节？

SUBWOOFER-VOLUME旋钮是控制低音炮音量的。右旋音量变大,左旋音量变小。

SUBWOOFER-FREQ旋钮是控制低音炮截止频率的。右旋频率增加,左旋频率减小。频率调节范围是20Hz-200Hz。右旋频率增加,频率偏高部分得到释放,低音炮声音会显得变大,是正常现象。

7. 声音小没事,声音变大后,出现声音浑浊的现象？

声音出现了失真,请将总音量调小或者换电压等级更高的适配器电源。

8. 声音小没事,声音变大后,出现声音卡顿的现象？

输入电源功率不足,电源自身间歇性断电保护,请更换更大功率的电源;或输出功率太大,功放板发热严重,出现了热保护的情况,减小音量或加强散热。

9. 音质的好坏跟哪些因素有关系？

音质的好坏不止与功放模块有关系,也与电源、音源以及整个音响系统有关系。基本上音响系统的每个环节都会影响音质,其中主要环节有音频传输线、音响电源、音调电路、功放电路、音箱和周围环境。只有音源、电源、功放模块和音箱相匹配的时候,音质才是最好的。

ZK-HT21 upgraded APP version 2.1 channel TDA7498E BT power amplifier module 160W * 2+220W

160W + 160W + 220W ZK-HT21

2.1 Channels BT Power Amplifier Module

AUX+BT+USB | Button toggles song and mode



Catalogue

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1.Product parameters



Product Name : 2.1 channel audio amplifier module with Tone

Product Model : ZK-HT21

BT Version : 5.0 (no shielding, 15 meters)

Audio Input : AUX + BT +USB (Dial wheel button toggles song and mode)

Channel : 2.1 (Left channel + right channel + subwoofer)

Chip Solution : TDA7498E

Adaptive power supply : DC 15~36 V (Under voltage protection below 9V, and 12V power supply can also be supported)

Adapter Speaker : 30-200W, 4-8Ω

Output Power : Max 160W @ R&L channel

Max 220W @ subwoofer

Protection Mechanism : Anti reverse connection, undervoltage, overheating, overcurrent, short circuit protection

Product Size : 145*126*28mm

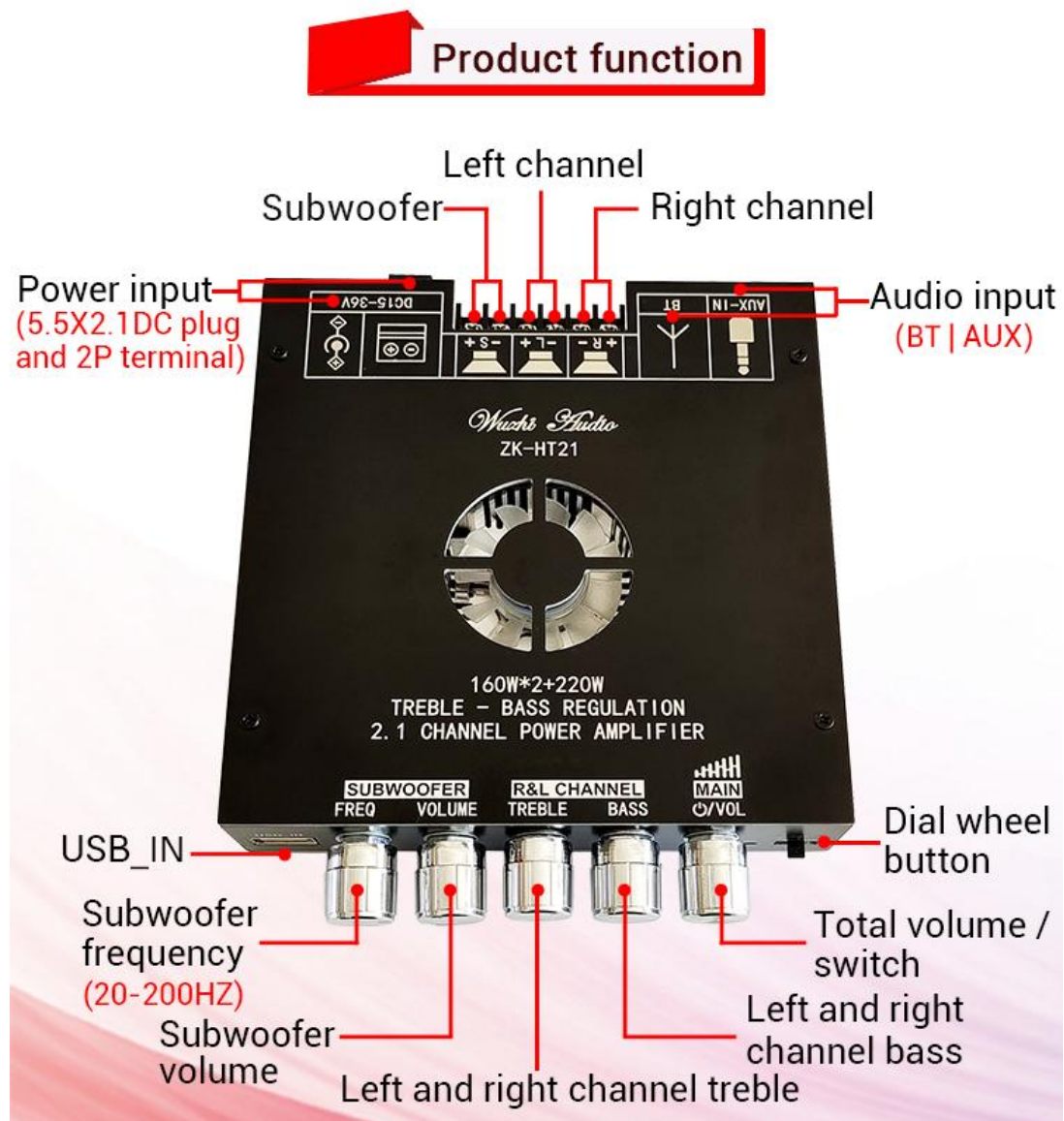
Product weight: net weight 327g, package weight 395g

Tip: when the audio signal input is large enough and the power supply voltage / current is large enough, there will be enough output power!

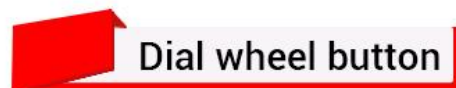
The higher the power supply voltage, the greater the output power, the smaller the horn impedance, and the greater the output power!

Please ensure that the power of the adaptive power supply is greater than the actual working power of the power amplifier!

2.Product function



3. Introduction to the use of dial wheel keys



USB input interface

Dial wheel button



Press the dial button in the middle

Short press: pause/play
Long press: switch mode
(USB/BT/AUX)
Triple hit: turn TWS on or off



Turn the dial button to the left

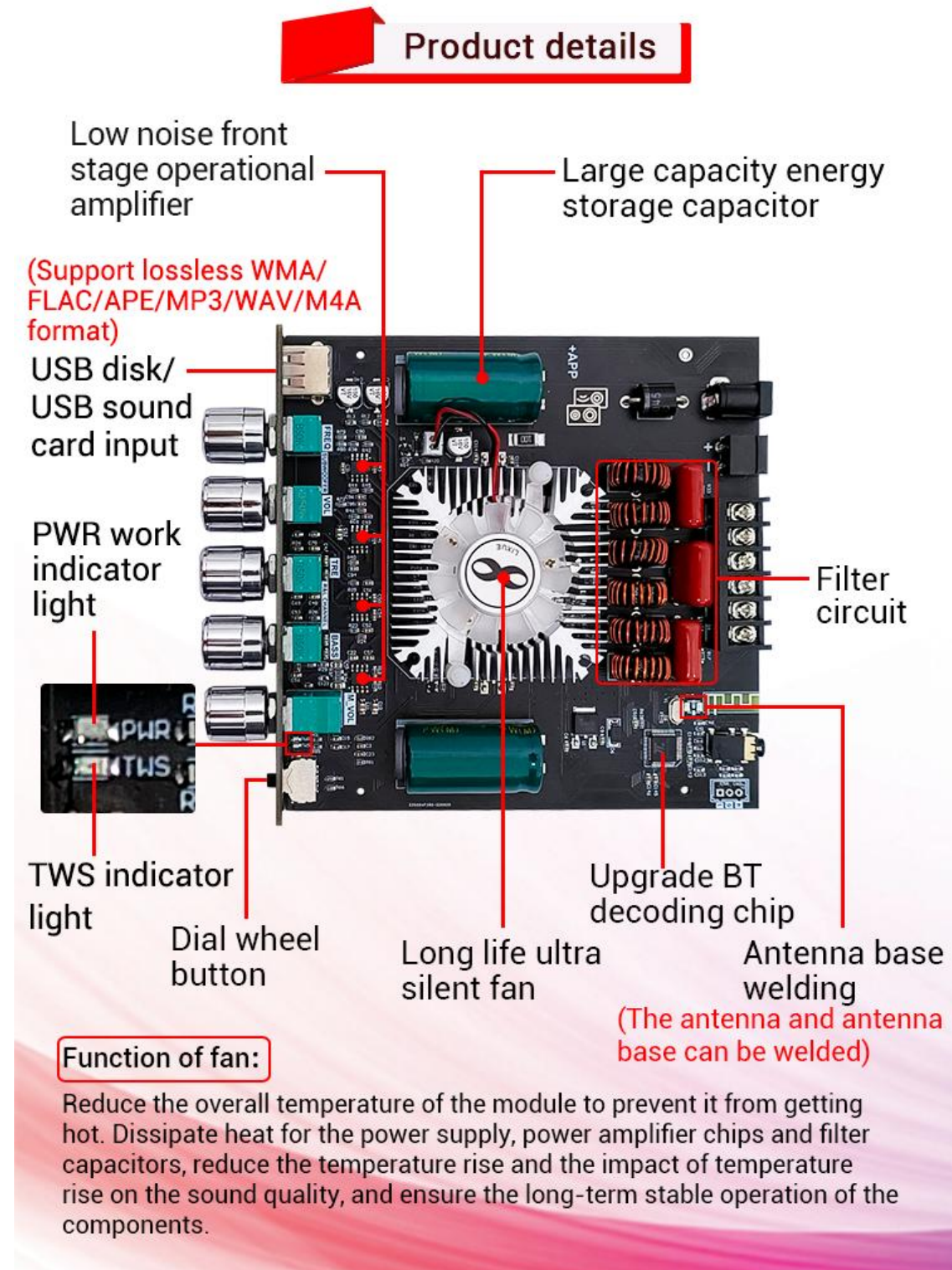
Short press: previous song
Long press: volume -



Turn the dial button to the right

Short press: next song
Long press: volume +

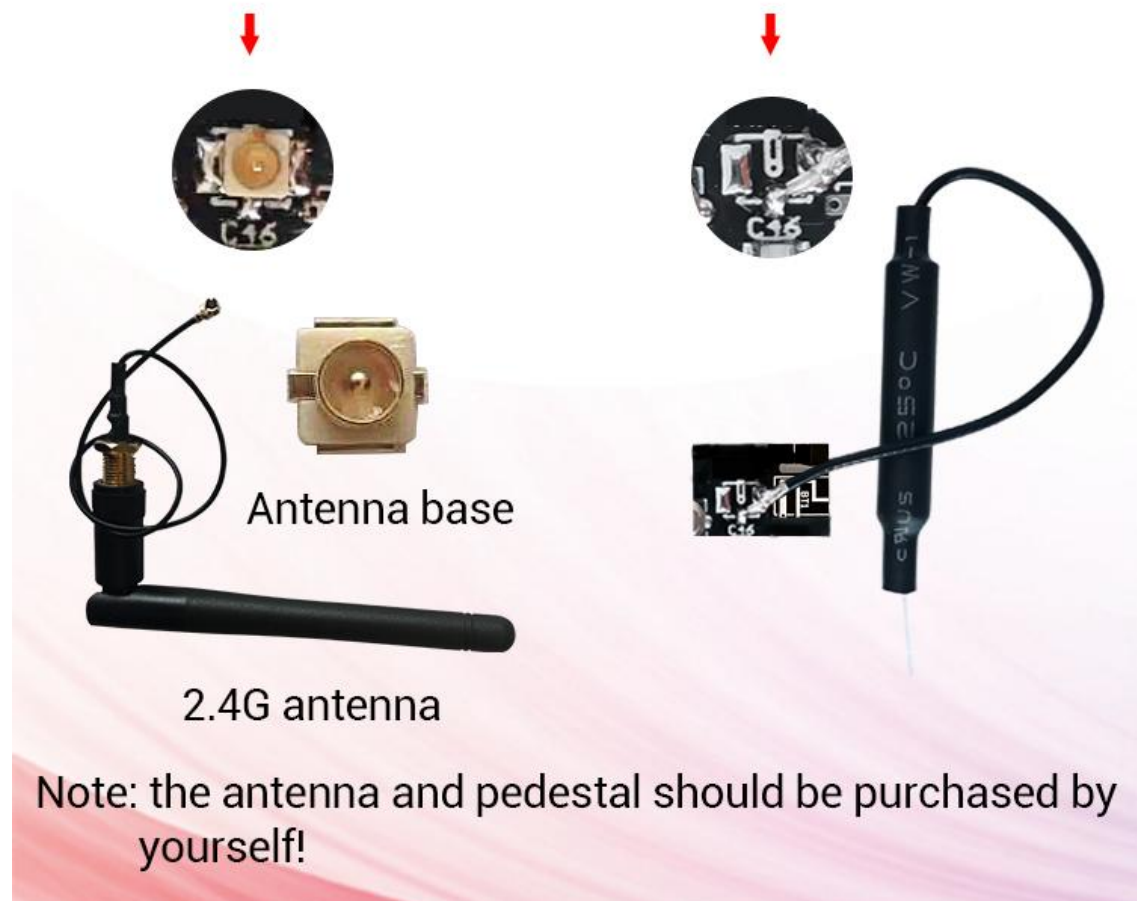
4.Product details



5. Welding example

Welding example

Antenna base welding example Antenna welding example

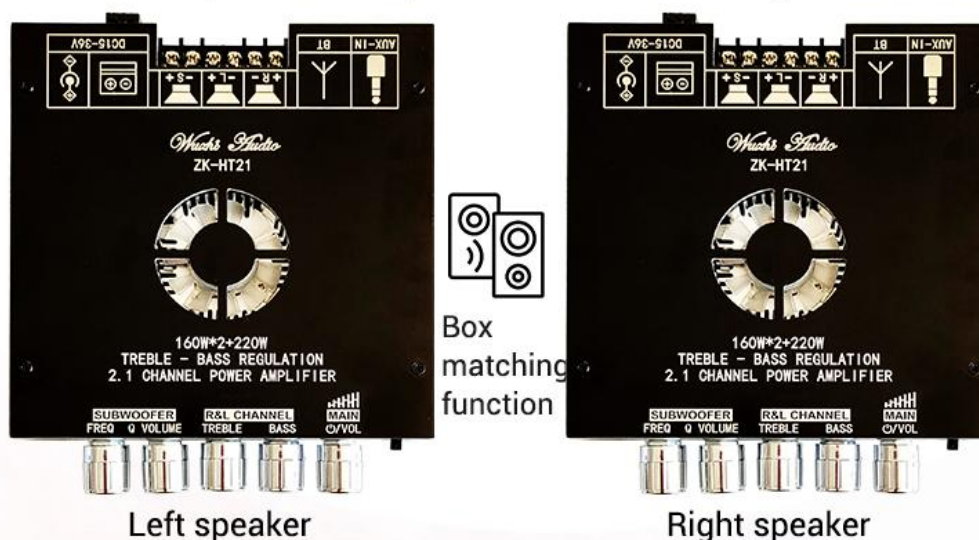


6.Box matching function

Box matching function

TWS interconnection

Two power amplifiers are used together



Introduction to box matching function and operation

- 1 Turn on two power amplifiers of the same model.
- 2 Select a power amplifier at will, and press the total volume knob with key function inwards three times. At this time, the red TWS indicator flashes, and the other power amplifier is automatically paired with it as a stereo combination. (if the pairing is not successful within 15 seconds, the pairing mode will be canceled automatically. You can try again by pressing the key three times.)
- 3 If the pairing is successful, the selected one will be assigned to the left channel, and the red indicator will always be on. The other one is the right channel, and the red indicator will flash slowly.
- 4 The next time you start the machine, you will automatically find the right box. If you want to cancel the box matching mode, you only need to select a power amplifier and press the button three times.

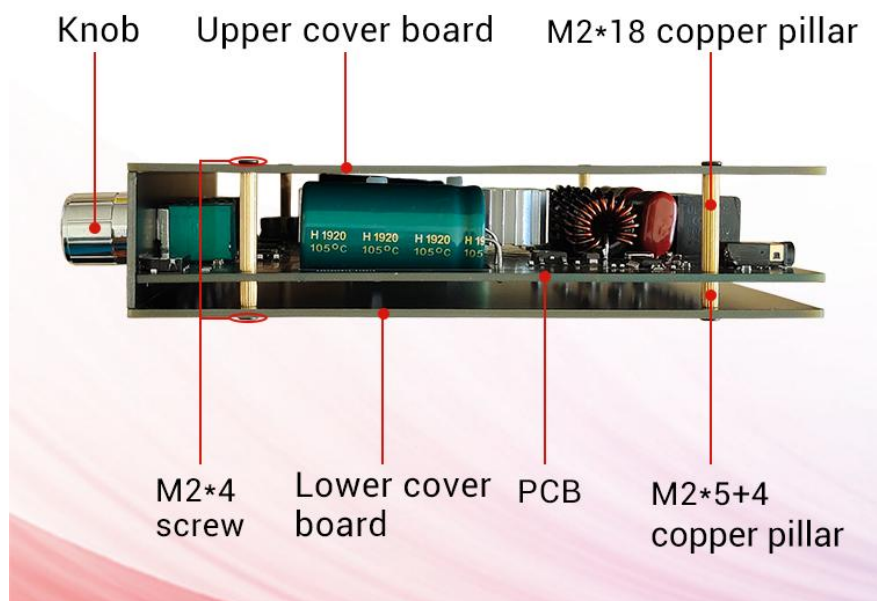
7. Product size

Product Size



8. Installation diagram

Installation diagram



9.APP setting interface

APP setting interface



BT name modification steps

[enter a new BT name] → [click set button] → [system automatic restart] → [cancel pairing of mobile BT with the original BT name] → [find a new BTname and re pair]

BT password setting steps

Method 1:
[turn on BT password switch] →
Use default password 1111

Method 2:
[turn on BT password switch] →
[enter password] → [click the setting button] → [the system will restart automatically] → [cancel pairing, and you will be prompted to enter password when connecting again]

10. Question and answers

Q&A

1. How to select the power supply?

The power supply matched with the board is very important. The ripple of the selected power supply must be small. The power supply with large ripple will cause the noise at the bottom of the power amplifier board to become larger and there is current sound. The higher the voltage, the greater the current and the more sufficient the output power. If you only have 12V 1A, you can bring a 3-4-inch speaker. If you are above 19V 5A, there is no problem with 8-10 inches. You must pay great attention to the power supply. If the voltage is too low, it is easy to cause sound distortion after sound amplification. If the current is too small to bring up, the horn will pull down the voltage, work abnormally or sound quality will become worse.

It is recommended to use 18V19V24V power supply with current above 8A or 32V10A power supply. If you only have 12V 15V 2A power supply, you can also use it, but the power is small. When you use it, the volume is close to the maximum, which may distort and affect the sound quality. If you want to get the maximum output power, it is recommended to use an adapter above 36V10A, a 160W ~ 200W 4Ω speaker, and adjust the volume to the maximum.

2. How to select speaker?

About speaker type: commonly used speakers are generally 4-8 ohms, which can be used. The left and right channel speakers need to be connected with full frequency speakers or medium and high frequency speakers, and the power is between 30W-200W. The subwoofer speaker cannot be connected to an ordinary speaker, but needs to be connected to a speaker with subwoofer speaker, with a power of 50-200W. The submergence frequency of subwoofer horn shall be at least 50Hz.

If your speaker power is small, such as between 20W-50W, it can also be used. You need to reduce the power supply voltage to prevent burning the horn after loud. For example, choose a power supply below 15V. The higher the selected voltage, the greater the sound or power that can be output. The speaker power is not easy to exceed 200W, otherwise the sound quality will be affected.

3. Introduction to audio input mode.

The audio power amplifier module has three audio input modes: BT input, AUX audio input and USB flash disk input. In BT mode, if an audio cable or USB flash disk is inserted, it will automatically switch to audio input mode or USB flash disk input mode, and BT mode has the lowest priority. When the audio cable or USB flash disk has been inserted, you can also use the dial key to switch the mode.

4. How to adjust the total volume?

The main-volume knob is used to adjust the total volume. The total right-hand volume increases and the total left-hand volume decreases. The total volume affects the volume of the left and right channels and subwoofer.

5. How to adjust the left and right channel treble and bass?

The R & L channel bass knob controls the bass. The right-hand bass is enhanced and the left-hand bass is attenuated. When the knob is in the middle position, the bass is neither enhanced nor attenuated.

The R & L channel treble knob controls the treble. The right-hand treble is enhanced and the left-hand treble is attenuated. When the knob is in the middle position, the treble is neither enhanced nor attenuated.

Note: if the treble and total volume are adjusted to the maximum at the same time, it is easy to cause power amplifier protection and sound jamming. Lower the treble or turn the main-volume knob on the right to the left to reduce the total volume.

6. How to adjust the subwoofer?

Subwoofer - volume knob controls the volume of subwoofer. The right-hand volume increases and the left-hand volume decreases.

The subwoofer-freq knob controls the cutoff frequency of the subwoofer. The right rotation frequency increases and the left rotation frequency decreases. The frequency adjustment range is 20HZ-200HZ. It is normal that the right-handed frequency increases and the part with high frequency is released, and the sound of subwoofer will become larger.

7. It's ok to have a small voice, but after the voice becomes louder, there will be the phenomenon of sound turbidity.

The sound is distorted, please turn down the total volume or change the adapter to a higher voltage level.

8. It's ok to have a small voice, but when the voice gets louder, there will be the phenomenon of sound lag.

If the input power is insufficient and the power is protected by its own intermittent power failure, please replace the power with a more powerful one. Or the power is too big, the power amplifier heating seriously, appeared the heat protection situation, reduce the power use or strengthen the heat dissipation.

9. What factors are associated with sound quality?

The quality of sound is not only related to the power amplifier module, but also to the power supply, sound source and the whole sound system. Basically every link of the sound system will affect the sound quality, among which the main link is the audio transmission line, audio power supply, tone circuit, amplifier circuit, speakers and the surrounding environment. The sound quality is best when the sound source, power supply, amplifier module and the speaker are matched.