

ZK-AS21 2.1 声道 TPA3251 蓝牙数字功放板模块 高低音调 低音炮 220W*2+350W

2.1声道蓝牙功放

220W+220W+350W

AUX | 蓝牙 | U盘 | 声卡

拨轮切歌切模式

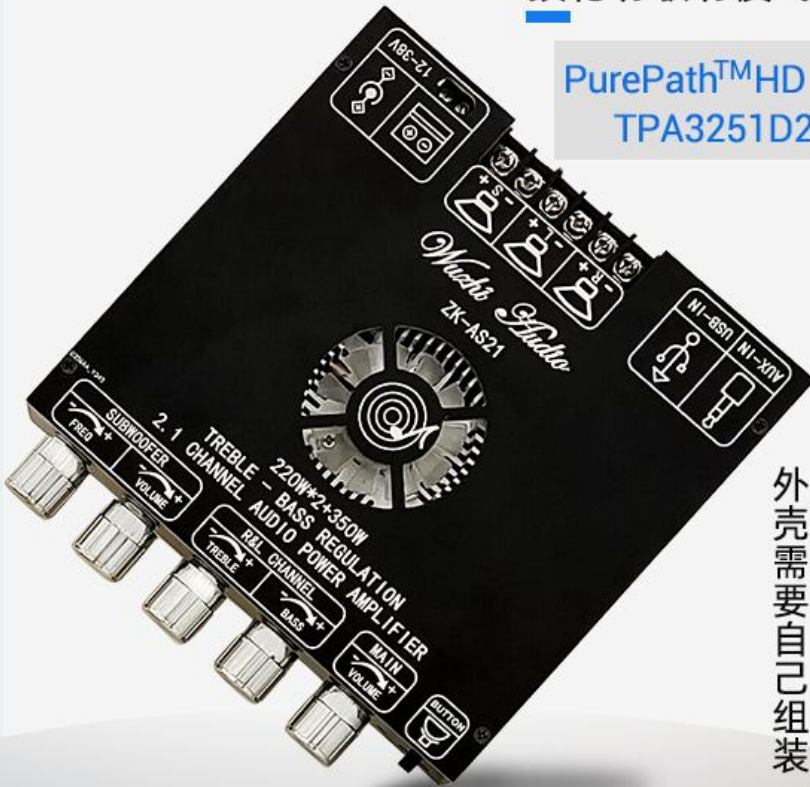
PurePath™HD
TPA3251D2

Wuzhi Audio

- ✓修改蓝牙名称
- ✓设置蓝牙密码
- ✓提示音音量调节
- ✓开关提示音
- ✓助眠曲+定时关机
- ✓音效调节
- ✓U盘选曲
- ✓播放列表

外壳需要自己组装

Wuzhi Audio APP帮助眠曲,您买到的不止是功放



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产品外观

外观简约不浮夸

PRODUCT
APPEARANCE



Wuzhi Audio

品牌之声

专为音乐发烧而生

👍 外观简约

👍 高清音质

👍 高保真度

1. 按键切歌切模式

按键方便快捷

按键切歌切模式

KEY HIGHLIGHTS



切歌按键和模式按键
不用手机也可以切歌



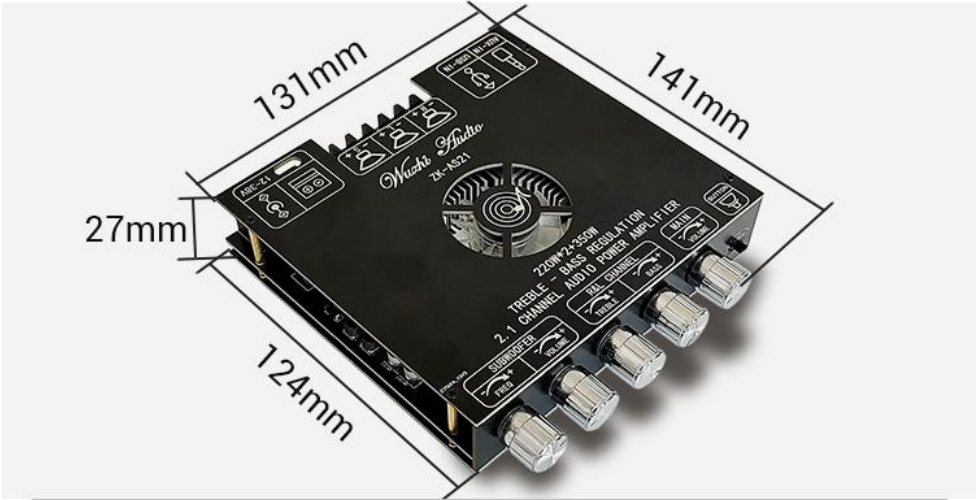
2. 产品参数

产品参数

三

详细的产品信息

PRODUCT
PARAMETERS



产品名称: 2.1声道蓝牙音频功放模块	产品型号: ZK-AS21
声道数: 2.1声道 (左声道+右声道+低音炮)	输入方式: AUX + 蓝牙+U盘 +USB声卡 (拨轮按键切换模式和歌曲)
蓝牙版本: 5.1	功放芯片: TPA3251D2
适配电源: DC 12~38 V, ≥10A	适配喇叭: 左右声道30-220W, 3-8Ω 低音炮 30-350W 2-8Ω
输出功率: 左右声道≤220W 低音炮≤350W	保护机制: 防反接、欠压、过热、过流、 短路保护(可自动恢复, 无需重启)
电压增益: 30dB	开关方式: 机械开关 (无需长按等待)
产品尺寸: 141*131*27mm	产品重量: 净重346g, 含包装408g

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!

3. 产品功能

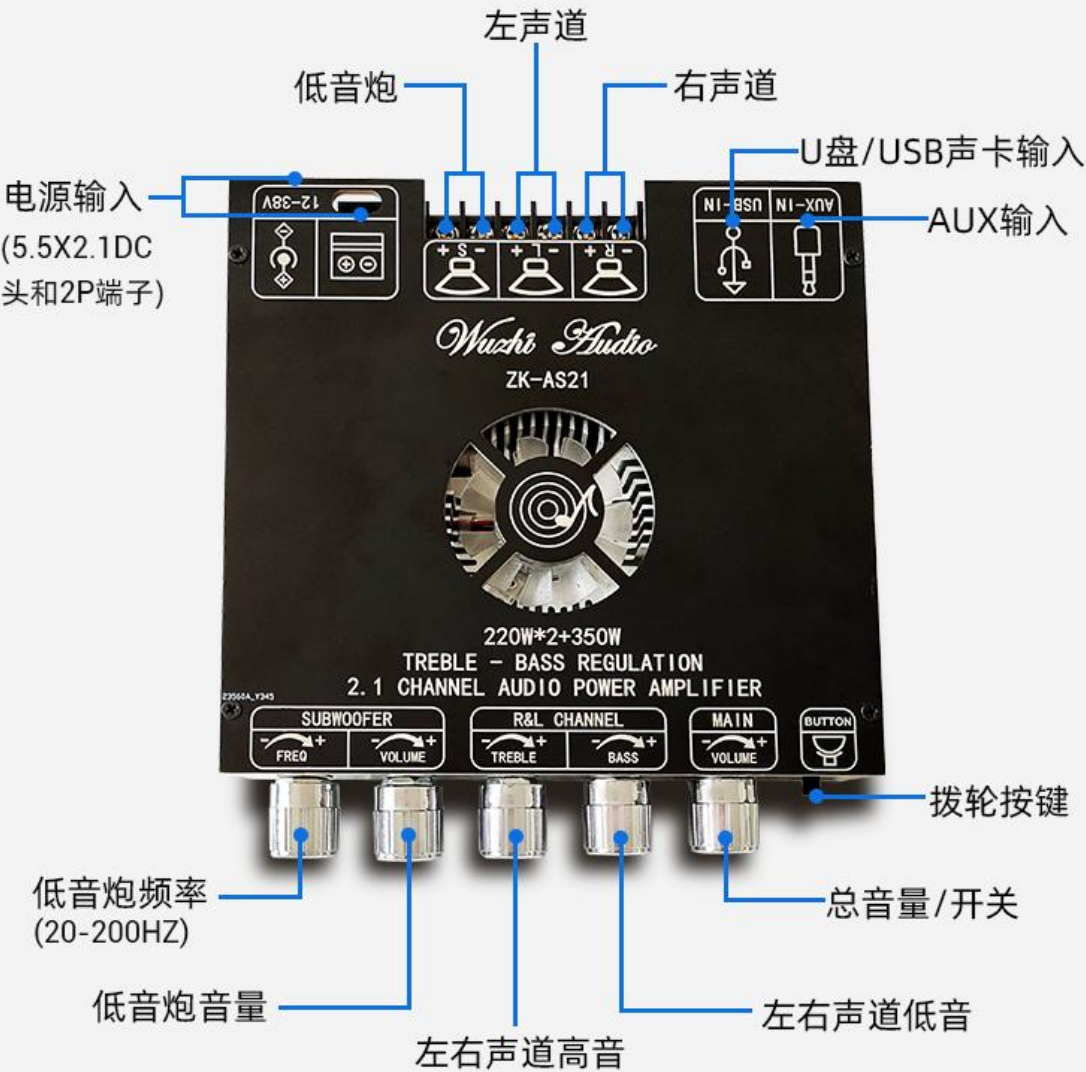
产品功能

三

全面的功能介绍

PRODUCT
FUNCTION

电源输入端子与喇叭接线端子明显区分，避免喇叭接到电源端子，烧掉喇叭



4. 拨轮按键使用介绍

拨轮按键



拨轮按键使用介绍

USE INTRODUCTION



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)



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+

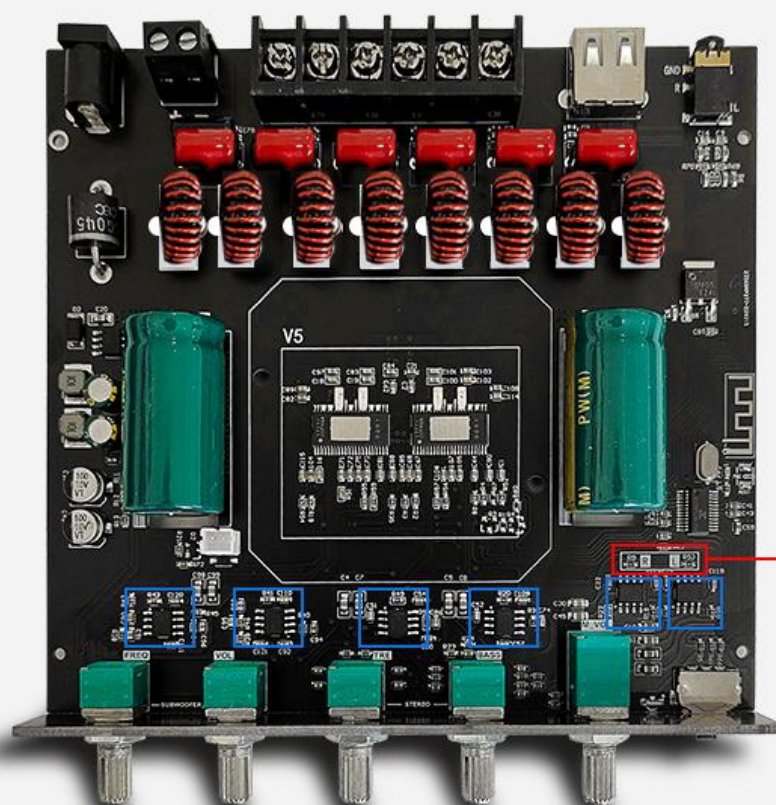
5. 6 个运放增益大

运放增益大



提升音质和音量

GOOD SOUND
QUALITY



改变R、L
电阻可DIY
增益

多一级放大才能保证输出足额功率

六个低噪声前级运放5532

提升音质和音量，增益大，增益参数为30dB

6. 产品细节

功放板正反面

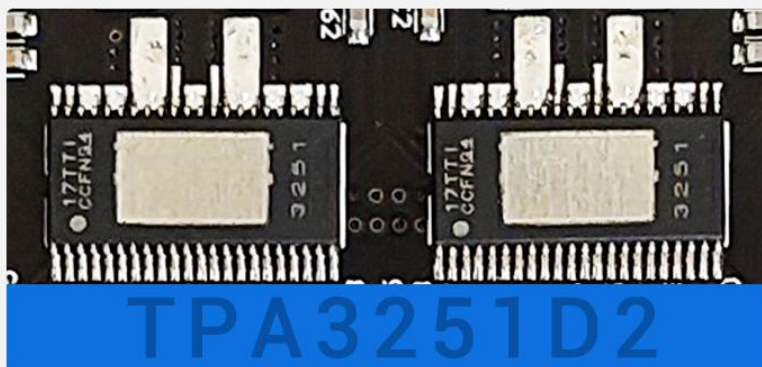
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细节决定品质

GOOD
QUALITY

产品使用2颗美国德州仪器(Texas Instruments) TPA3251D2功放芯片设计

TPA3251D2是一款高性能D类功率放大器，它具有D类效率并且能够带来真正的高端音质。该器件特有高级集成反馈设计和专有高速栅极驱动器错误校正功能（PurePath™高清）。该技术可使器件在整个音频频带内保持超低失真，同时展现高清音质。

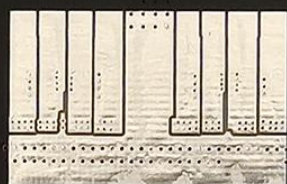


开窗喷锡设计

走线开窗喷锡设计
增大输出功率



ZK-AS21



走线开窗喷锡设计

裸板背面走线开窗喷锡
增大输出功率

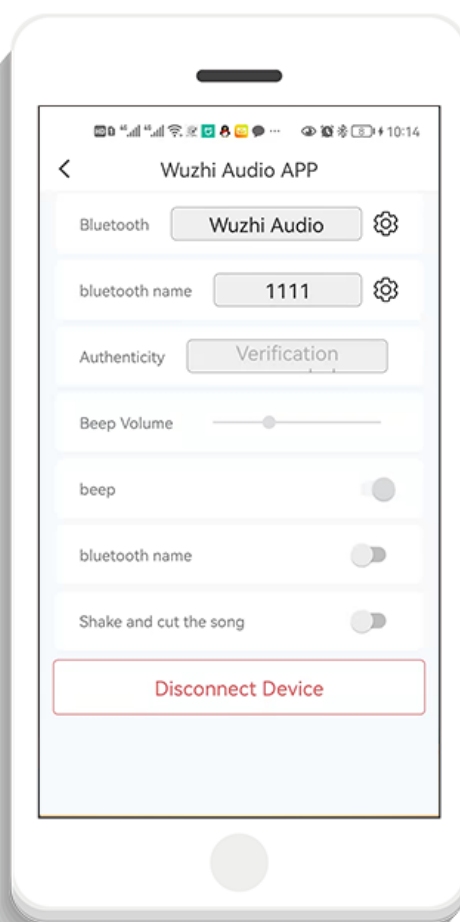
7. APP 设置界面

Wuzhi Audio APP



APP设置界面

APP SETTING
INTERFACE



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】

8. 外接天线安装示例

焊接示例



外接天线或天线座

INSTALLATION
EXAMPLE

天线座焊接示例



天线座

2.4G天线

天线焊接示例



注意:天线和天线座需自行购买!

9. CE 认证

CE认证



欧盟安全认证

CE CERTIFICATION

30dB高增益，有效保证高功率输出

机械按键一转关机，无需等待，方便快捷

无级调音,音量大小调节有指示

CE

Product Model	ZK-AS21
Power Supply	DC12-38V/10A
Bluetooth Version	5.1
Audio Input	Bluetooth+AUX+USB
Audio Output	2.1, R&L Channel+Subwoofer
Voltage Gain	30dB(you can change)
Power Output	220W+220W+350W
Volume Knob	Stepless Tuning
Switch	Mechanical Switch
Smart Protection	YES, Automatic Recovery
R&L Speaker	30-220W/3-8Ω
Subwoofer Speaker	30-350W/2-8Ω

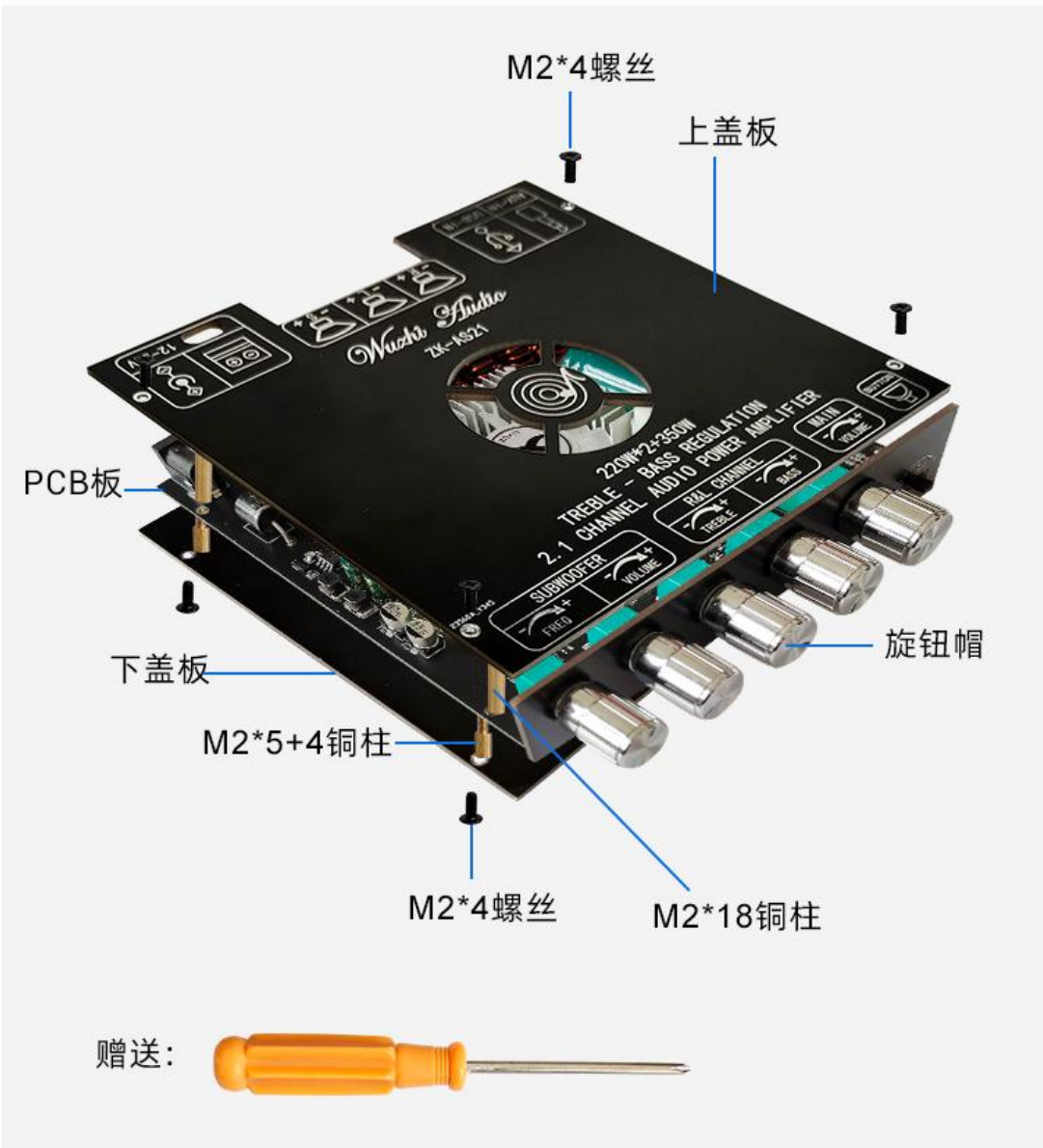
10. 安装示意图及产品清单

安装示意



安装示意图及产品配件

INSTALLATION
DIAGRAM

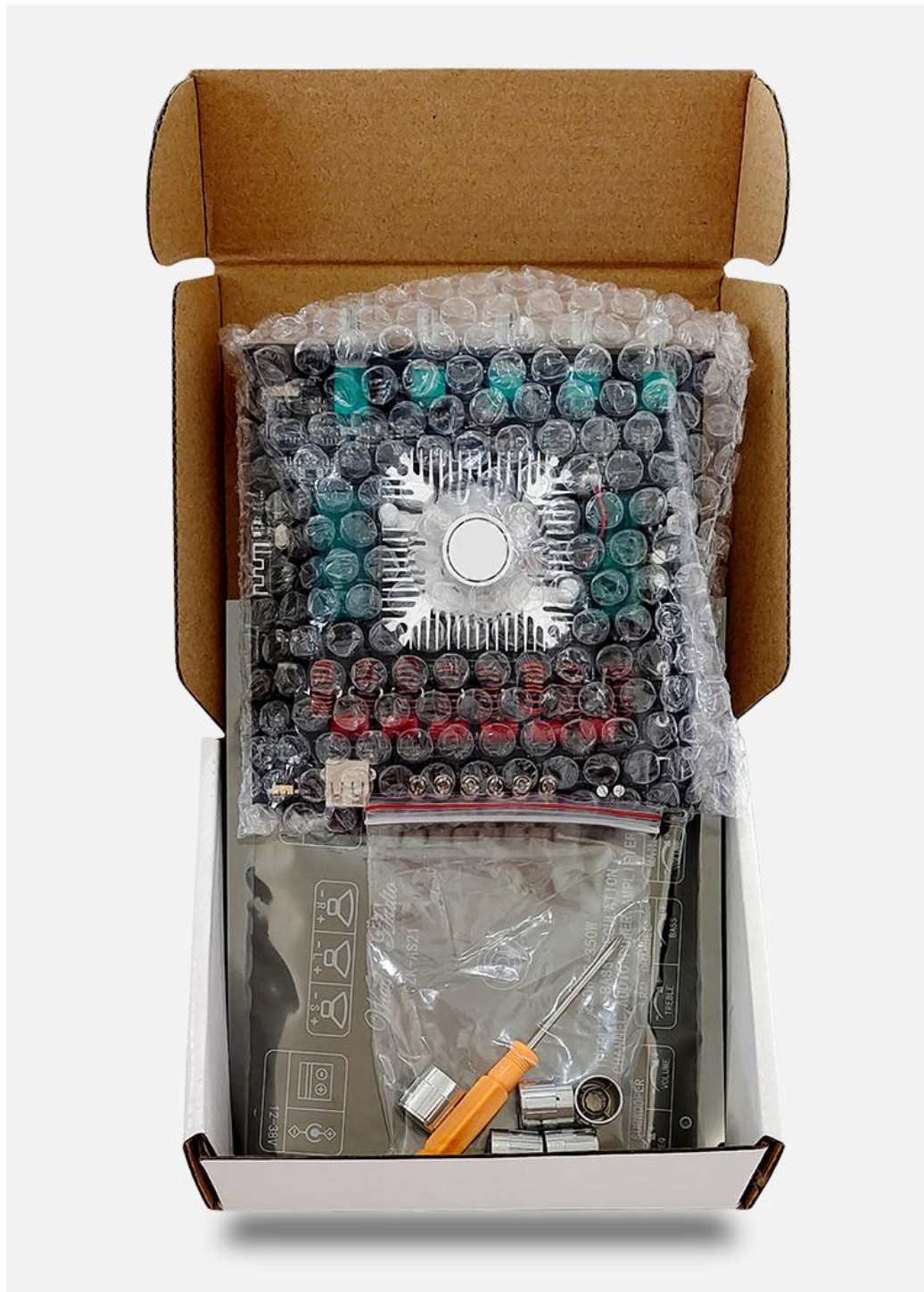


11. 包装形式

产品包装

包装形式

PACKAGING FORM



ZK-AS21 2.1 channel TPA3251 BT digital power amplifier board module TREBLE – BASS subwoofer 220W*2+350W

ZK-AS21

2.1 CHANNEL BT POWER AMPLIFIER

220W+220W+350W

AUX|BT|USB drive|Sound card
Button toggles song and mode

PurePath™ HD
TPA3251D2


Wuzhi Audio

- ✓ Modify BT name
- ✓ Set BT password
- ✓ Prompt tone volume adjustment
- ✓ Switch tone
- ✓ Lullaby + timed shutdown
- ✓ Sound effect adjustment
- ✓ Select songs from USB flash drive
- ✓ Playlist



The board features a central silver heat sink, a large volume knob, and various control buttons. Labels on the board include 'SUBWOOFER', 'TREBLE - BASS', 'REL. CHANNEL', 'MAIN VOLUME', and '2.1 CHANNEL 220W*2+350W AUDIO POWER AMPLIFIER'. It also has ports for 'AUX-IN', 'BT', and 'USB'.

The shell needs to be assembled by yourself

Wuzhi Audio APP with lullaby, you can buy more than just a power amplifier

Catalogue

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ZK-AS21



SIMPLE APPEARANCE WITHOUT EXAGGERATION

PRODUCT
APPEARANCE



Wuzhi Audio

Voice of brand

Born for music fever

Simple appearance

HD sound quality

High fidelity

1. Dial wheel button to switch songs and modes

ZK-AS21



DIAL WHEEL BUTTON TO SWITCH SONGS AND MODES

KEY HIGHLIGHTS



Switch song key and mode key

You can switch songs without using your mobile phone



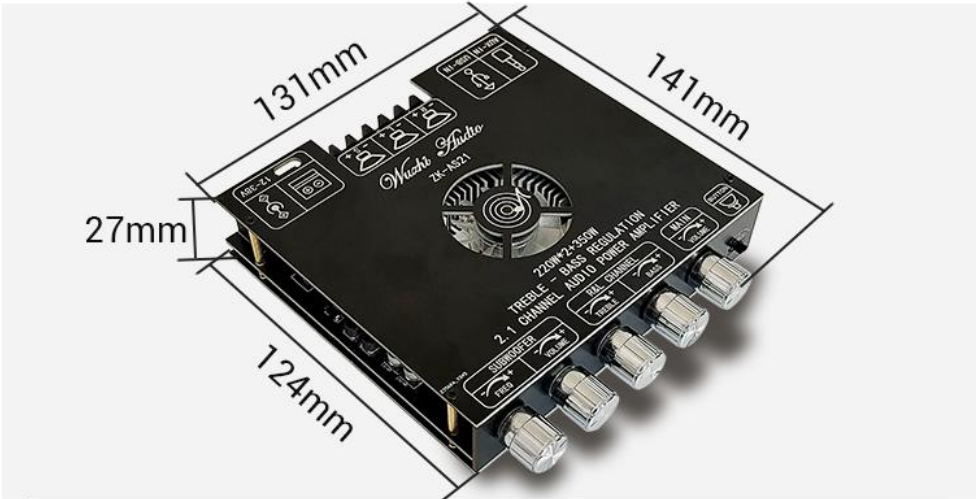
2.Product parameters

ZK-AS21



DETAILED PRODUCT INFORMATION

PRODUCT
PARAMETERS



Name:	2.1 channel BT power amplifier	Model:	ZK-AS21
Channel:	2.1 channel (left channel + right channel + subwoofer)	Audio input:	BT+AUX+USB+USB sound card (dial wheel key to switch mode and song)
BT Version:	5.1	Chip Solution:	TPA3251D2
Adaptive power supply:	DC 12~38 V, $\geq 10A$	Adaptive speaker:	L&R channels 30-220W, 3-8 Ω subwoofer 30-350W 2-8 Ω
Output power:	R&L channel $\leq 220W$ subwoofer $\leq 350W$	Protection Mechanism:	Protection against reverse connection, undervoltage, overheating, overcurrent and short circuit (automatic recovery without restart)
Voltage gain:	30dB	Switching mode:	Mechanical switch (without long press and wait)
Size:	141*131*27mm	Weight:	Net weight 346g, with package 408g

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!

3. Product function

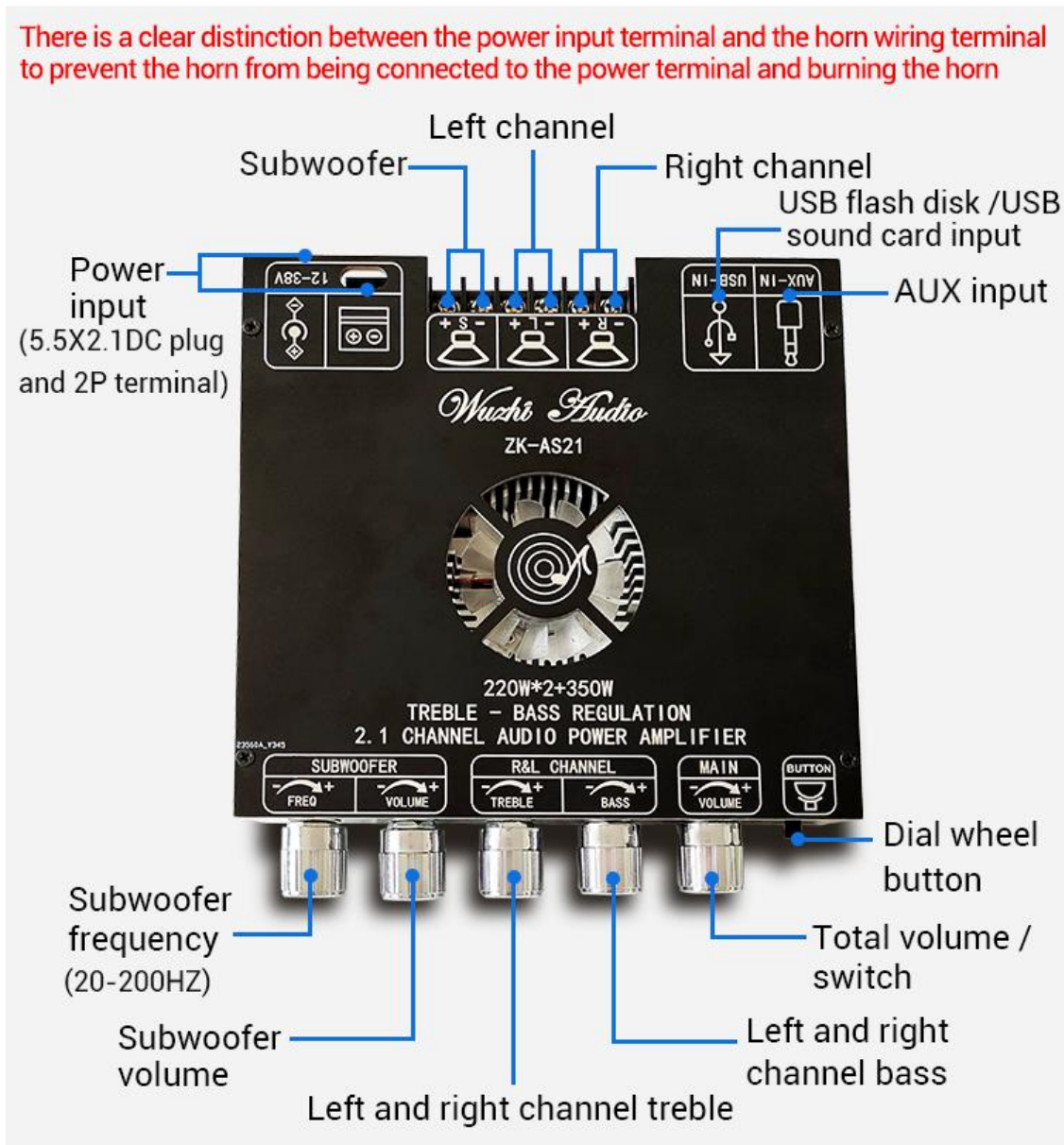
ZK-AS21



COMPREHENSIVE FUNCTION INTRODUCTION

PRODUCT
FUNCTION

There is a clear distinction between the power input terminal and the horn wiring terminal to prevent the horn from being connected to the power terminal and burning the horn



4.Introduction to the use of dial wheel keys

ZK-AS21



INTRODUCTION TO THE USE OF DIAL WHEEL KEYS

USE INTRODUCTION



Dial wheel button



Press the dial button in the middle

Short press:pause/play

Long press:switch mode
(USB/BT/AUX)



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+

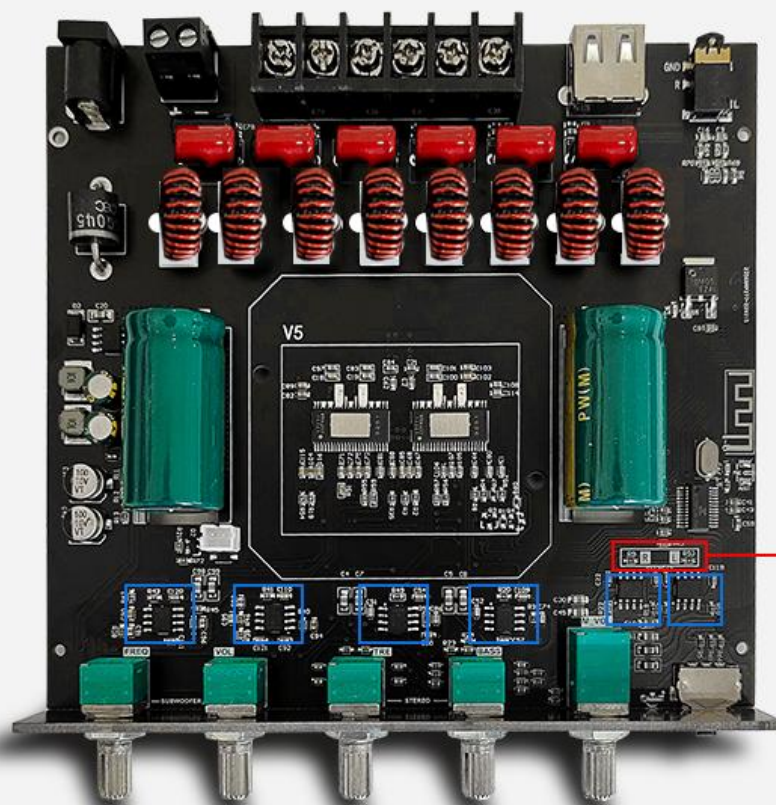
5. Six operational amplifiers with large gain

ZK-AS21



IMPROVE SOUND QUALITY AND VOLUME

GOOD SOUND
QUALITY



Changing
the R and L
resistors
can the DIY
gain

One more level of amplification can ensure full output power

Six low noise preamplifiers 5532

Improve the sound quality and volume, increase the gain, and the gain parameter is 30dB

6.Product details

ZK-AS21

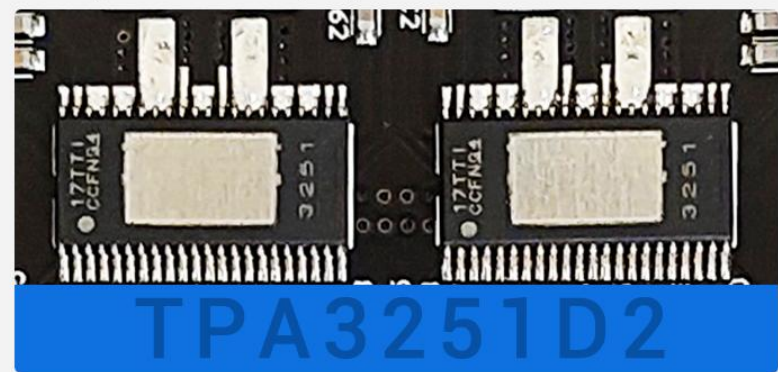


DETAIL DETERMINES QUALITY

GOOD
QUALITY

The product is designed with two Texas Instruments TPA3251D2 power amplifier chips

TPA3251D2 is a high-performance class D power amplifier. It has class D efficiency and can bring real high-end sound quality. The device features advanced integrated feedback design and proprietary high-speed gate driver error correction function (PurePath™ HD). This technology can make the device maintain ultra-low distortion in the whole audio frequency band and show high-definition sound quality at the same time.

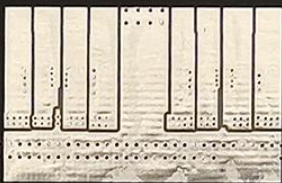


Window tin spraying design

Tin spraying design of wiring window
Increase output power



ZK-AS21



Tin spraying design of wiring window

Wiring on the back of bare board, window opening and tin spraying
Increase output power

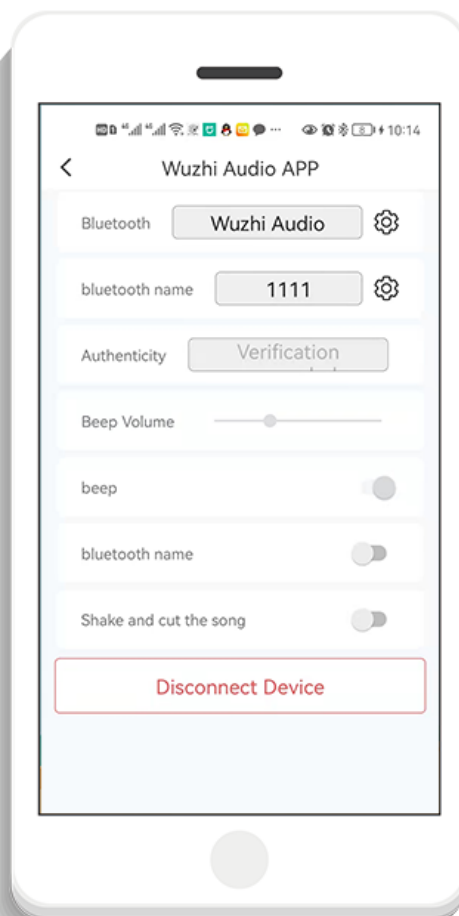
7.APP setting interface

Wuzhi Audio APP



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]

8. Installation example of external antenna

ZK-AS21



EXTERNAL ANTENNA OR ANTENNA BASE

INSTALLATION
EXAMPLE

Antenna base welding example Antenna welding example



Note: the antenna and pedestal should be purchased by yourself!

9.CE certification

ZK-AS21



EU SAFETY CERTIFICATION

CE CERTIFICATION

30dB high gain, effectively ensuring high power output

The mechanical button turns off without waiting,
which is convenient and fast

Stepless tuning, volume adjustment with indication



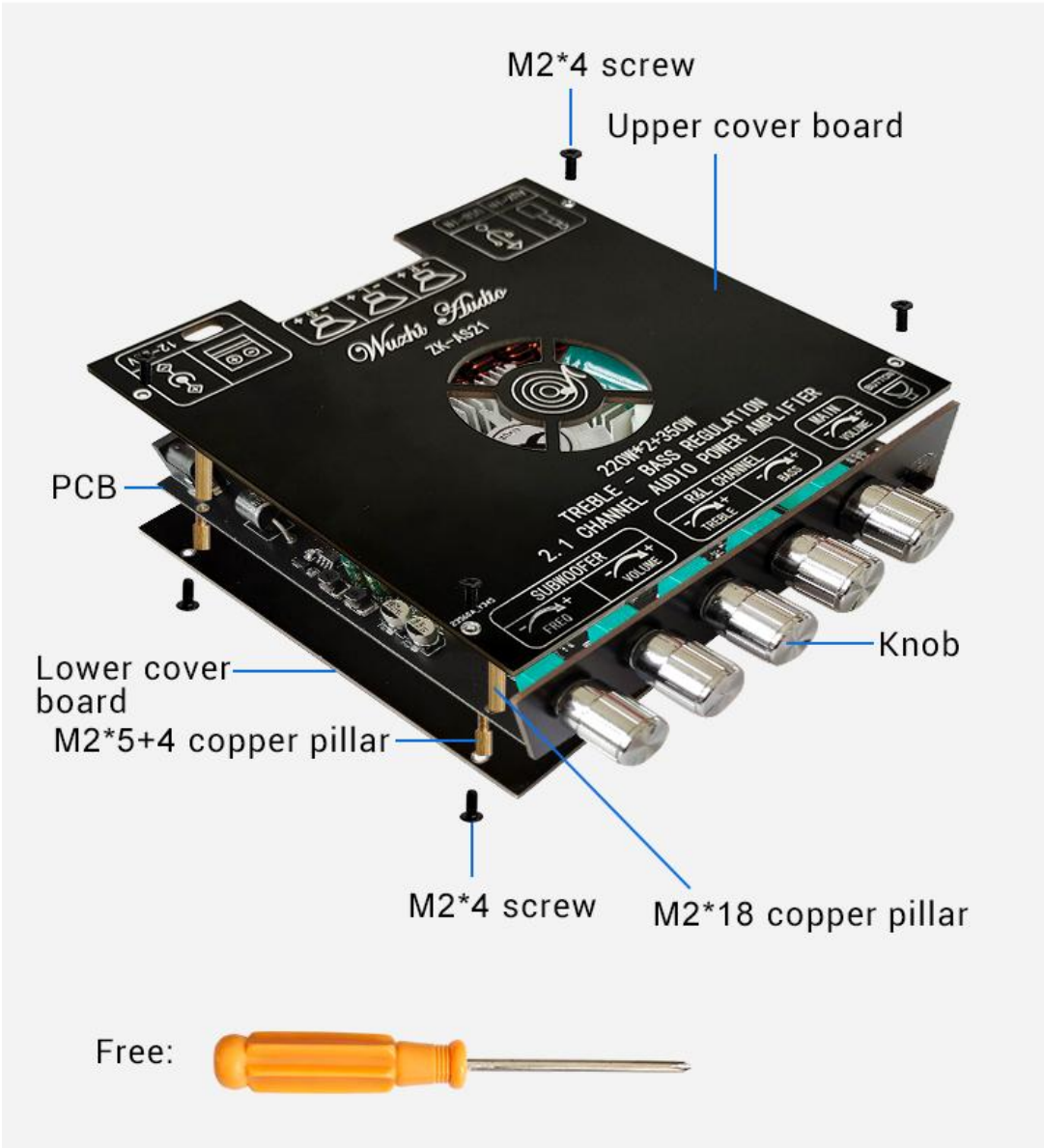
10.Installation diagram and product list

ZK-AS21



Installation diagram and product accessories

INSTALLATION
DIAGRAM



11. Packaging form

ZK-AS21



PACKAGING FORM

PACKAGING FORM

