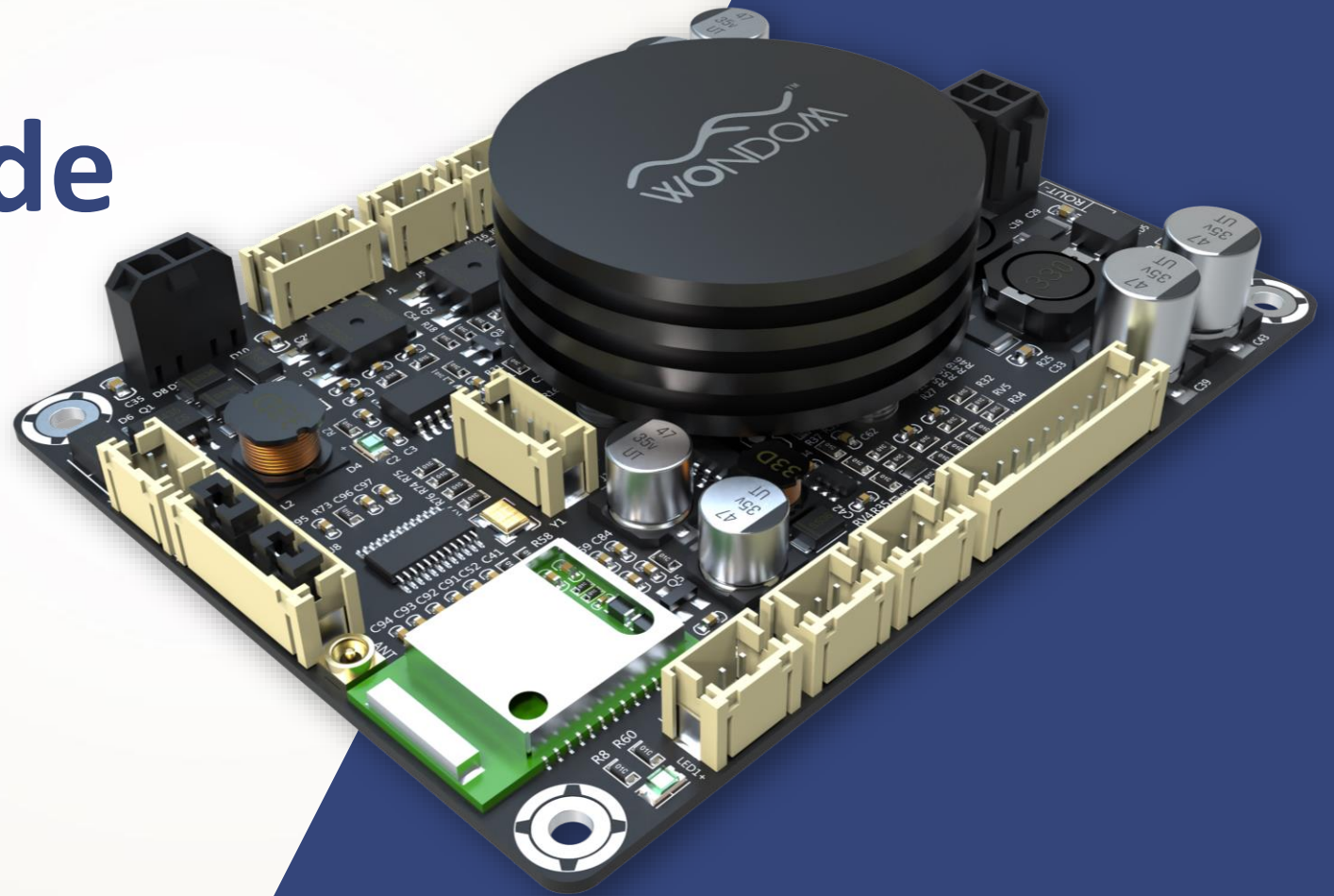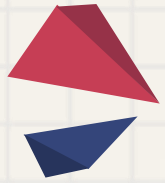# JAB2v2
Connection Guide

BY SURE ELECTRONICS CO., LTD.

SURE® electronics

What is JAB2v2?

JAB2v2 is an audio amplifier board integrated with **Bluetooth V5.0 (supporting APT-X HD)**, including four models as 2 x 50W, 2 x 30W, 1 x 100W and 1 x 60W. Besides power supply power, JAB2v2 supports battery power, which greatly improves the portability. Bluetooth, battery power, light weight and high quality audio performance make JAB2v2 perfectly suitable for portable Bluetooth speakers, home audio, garden audio and DIY applications.
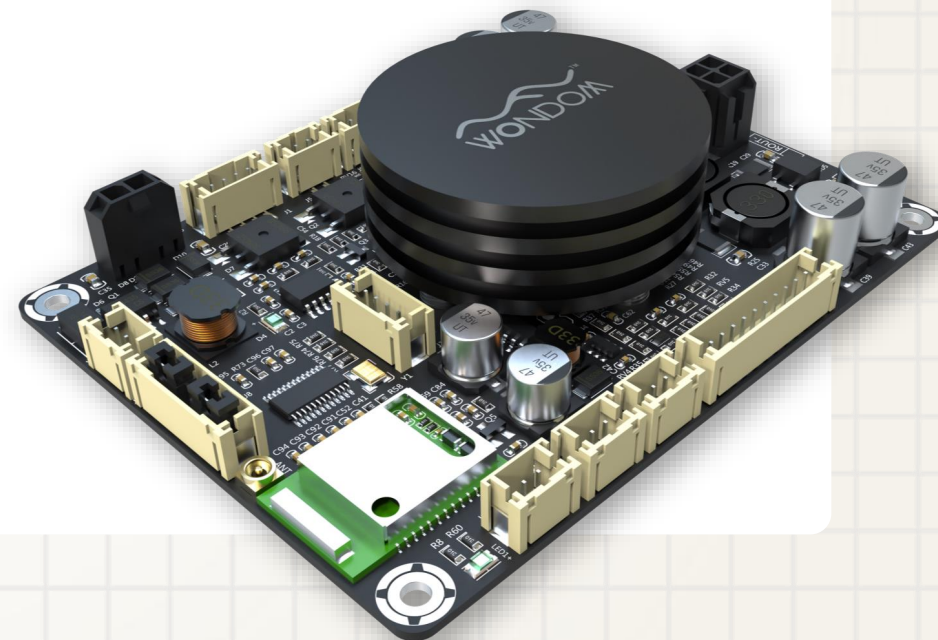
What is JAB2v2?

Thanks to the equipped DSP chip, JAB2v2 supports PC UI control after connection with WONDOM ICP5 or higher version(s), through which, you can **adjust volume, gain, frequency and EQ setting**. As for the details, please refer to 'PC UI Control' part.

In addition to speaker output, JAB2v2 offers an extra mixed output. Customers can configure it into a subwoofer output (An amplifier is required) by frequency adjustment in PC UI to build an audio 2.1 system.
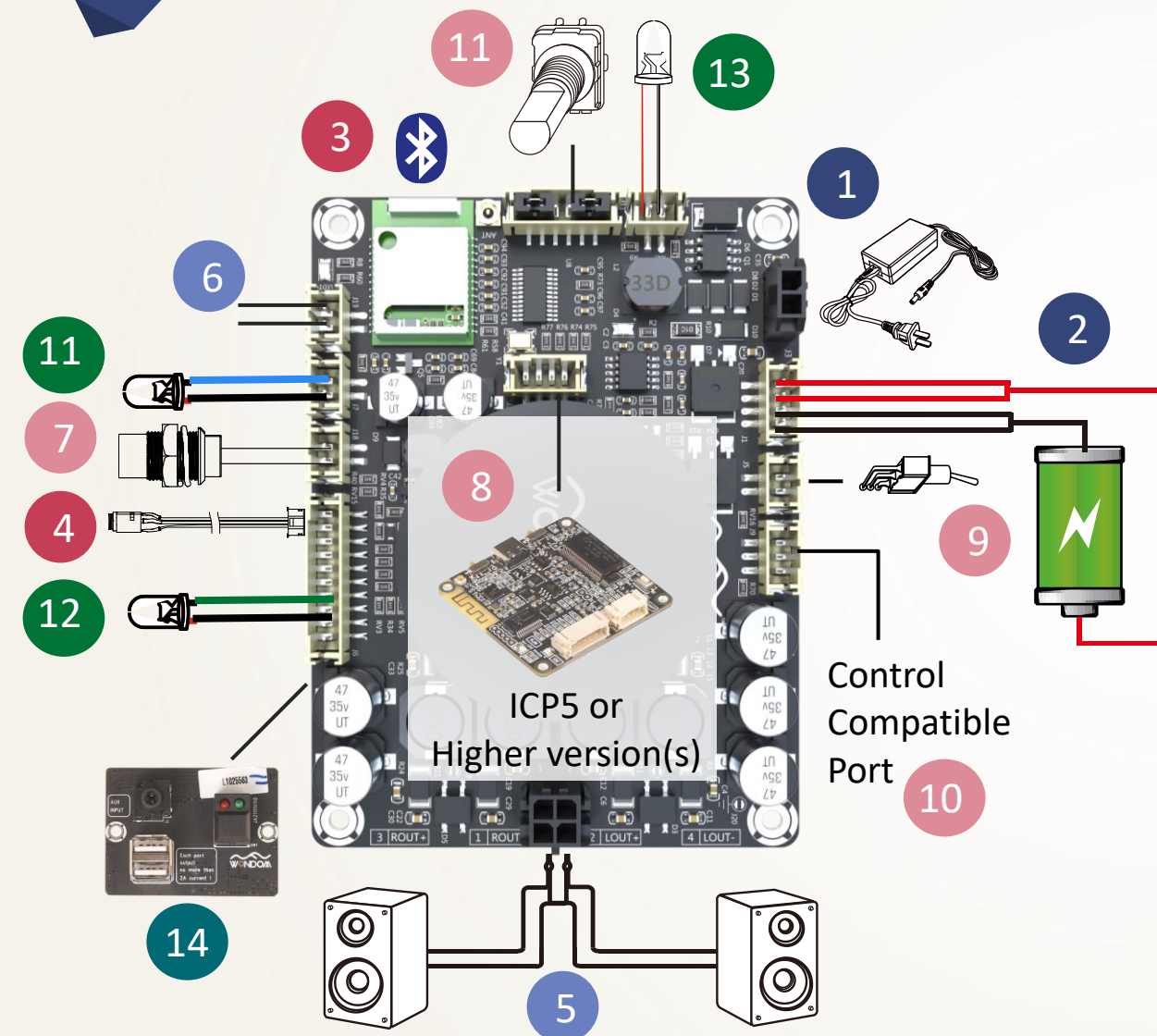
Key Features:

- Integrated with Bluetooth 5.0
- Supporting Battery Power
- Bluetooth Pairing Cancellation

- Integrated with DSP
- Supporting PC UI
- Mixed Line Output

Connection Diagram

Power Supply

1. 12-24V power adapter
2. Battery boards

Audio Input

3. Bluetooth 5.0 aptX HD
4. 3.5mm AUX IN

Audio Output

5. Speaker output
6. Mixed Line output, supporting configuration as subwoofer signal

Extension Function

14. Extension Board

Control

7. BT Pairing Cancellation
8. PC UI Control
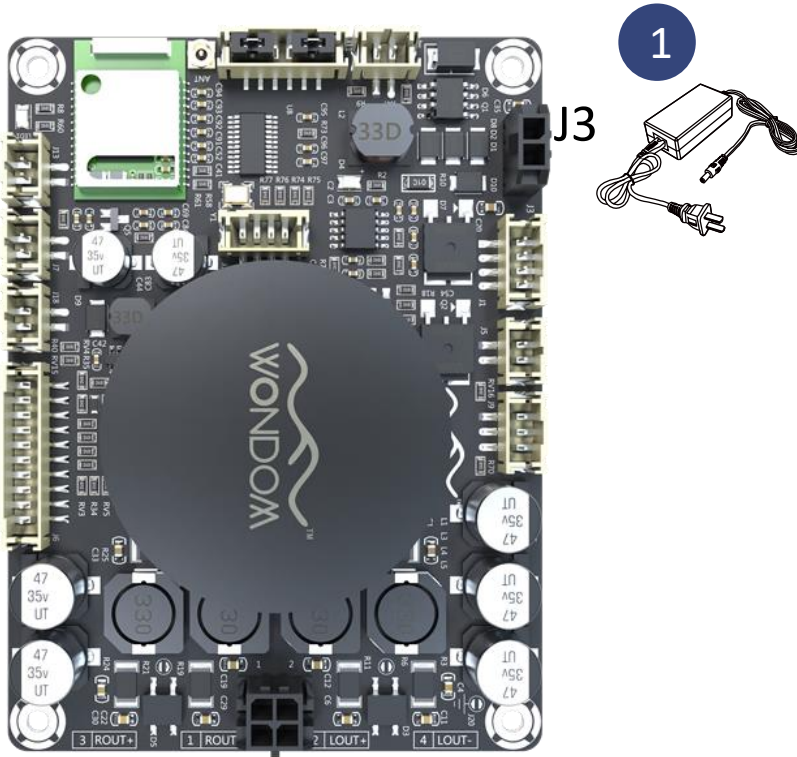9. Shutdown Control
10. Synchronization Port
11. Volume Control

LED Indicator

11. Bluetooth indicator
12. Power indicator
13. Charging indicator

ICP5 or Higher version(s)

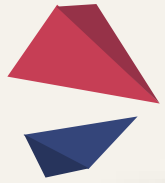Control Compatible Port

Power Supply

J3

①

1, Power supply – J3

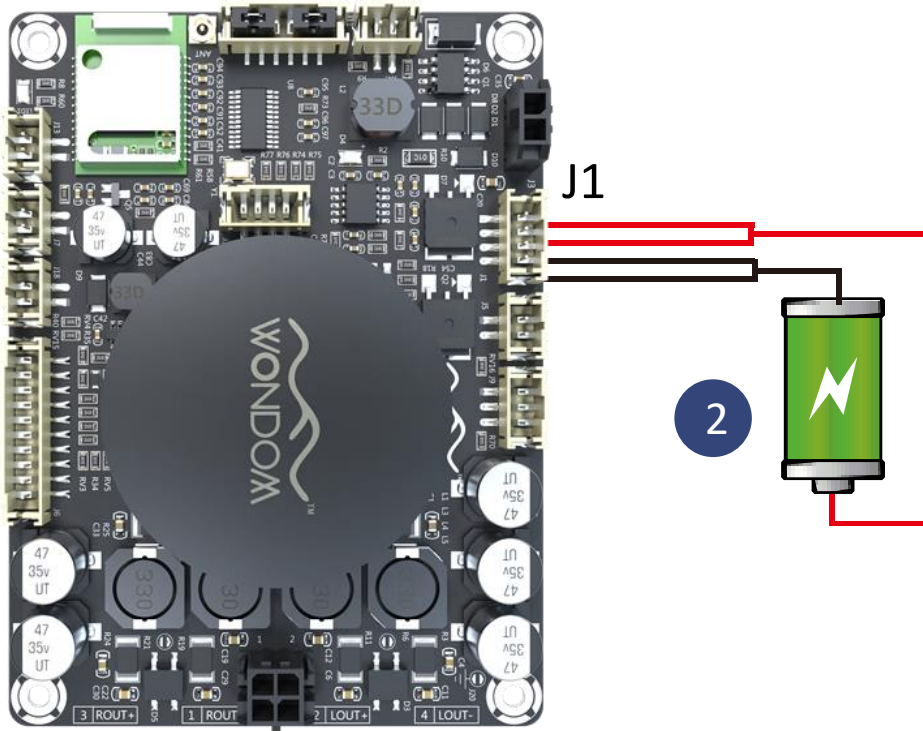Suggested power supply should be 19V 2.1A. You can also use any adapter within 12-24V DC output, , 1A minimum.

The terminal interface used for power supply is Molex MicroFit-2Pos-3mm.

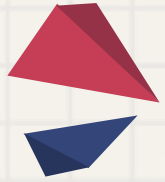A power supply cable comes with JAB2v2 in the package.

J1

2

2, Battery board – J1

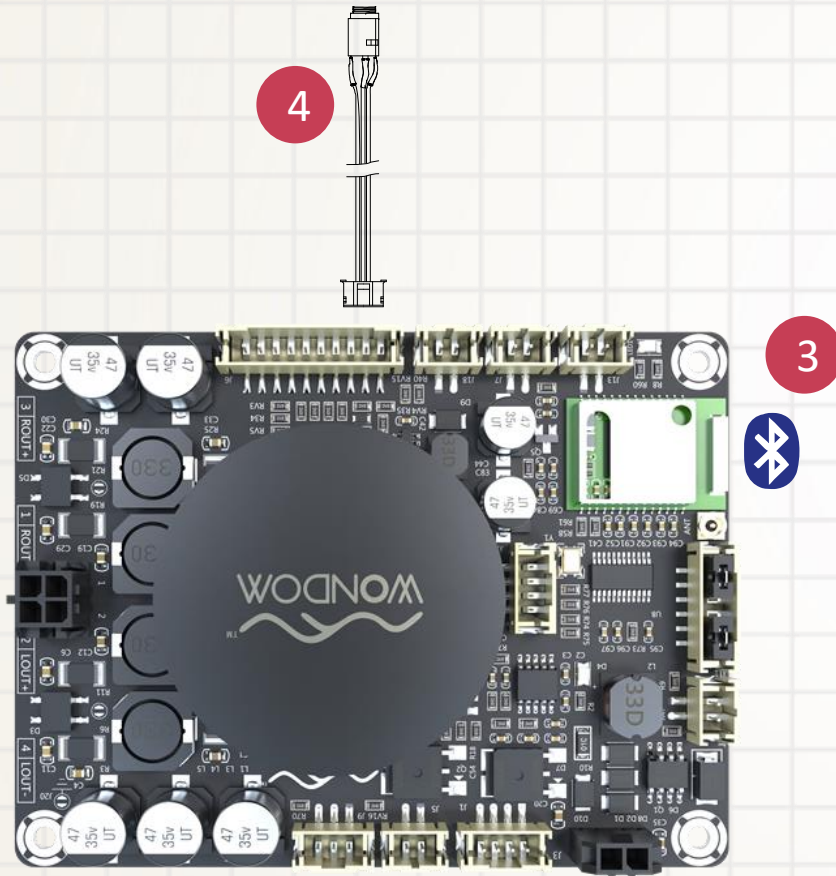JAB2v2 supports battery power which improves the portability.

MPPT charging circuit is equipped in JAB2v2. So, you can use AA-JA11113 to power JAB2v2.

When you want to charge batteries with AA-JA11113, connect the power supply and battery board together with JAB2v2. The voltage of the power supply is suggested to be larger than 15V and the current is larger than 1A.
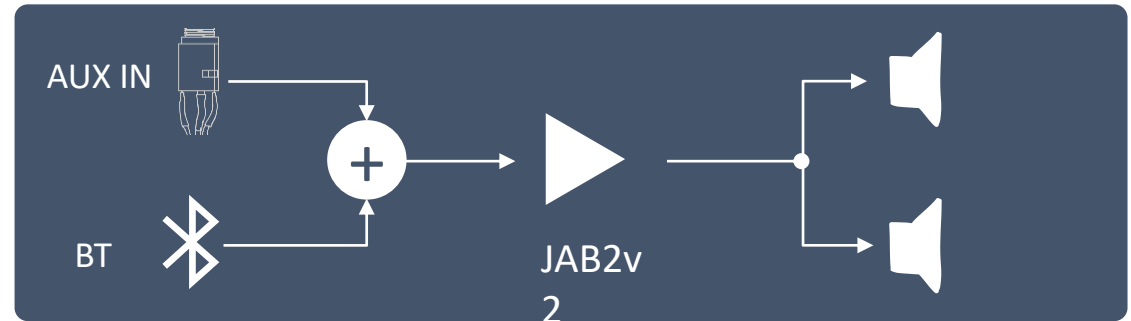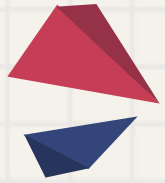
Audio Input

4

3

JAB2v2 supports both Bluetooth input and 3.5mm line input. Signals from the two input methods will be mixed before being transmitted to the amplification circuit.
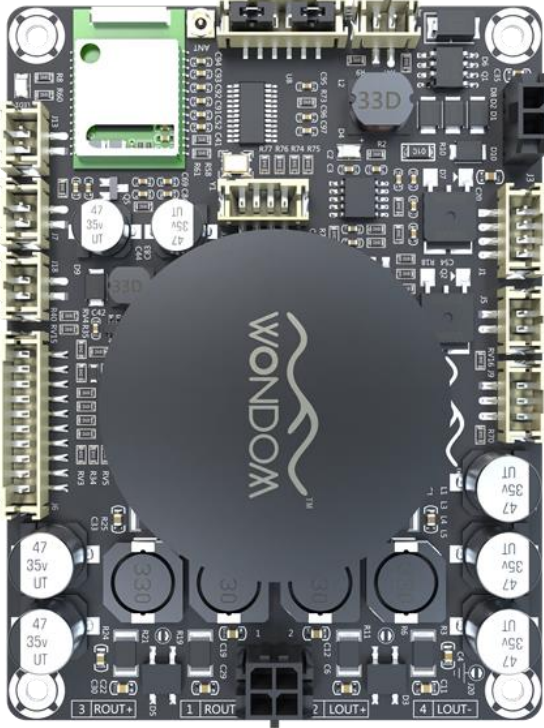
AUX IN

BT

+

JAB2v2

Audio Input

3

3, Bluetooth input

JAB2v2 is integrated with Bluetooth 5.0 module, supporting aptX HD.

There is a built-in Bluetooth antenna on the board for stable connection. So you can directly use JAB2v2 for audio playback.

< Developer options

Trigger Bluetooth Audio Codec Sel...

AAC

Qualcomm® aptX™ audio
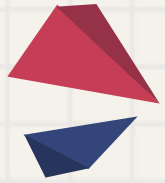
> Qualcomm® aptX™ HD audio

LDAC

Qualcomm® aptX™ Adaptive audio
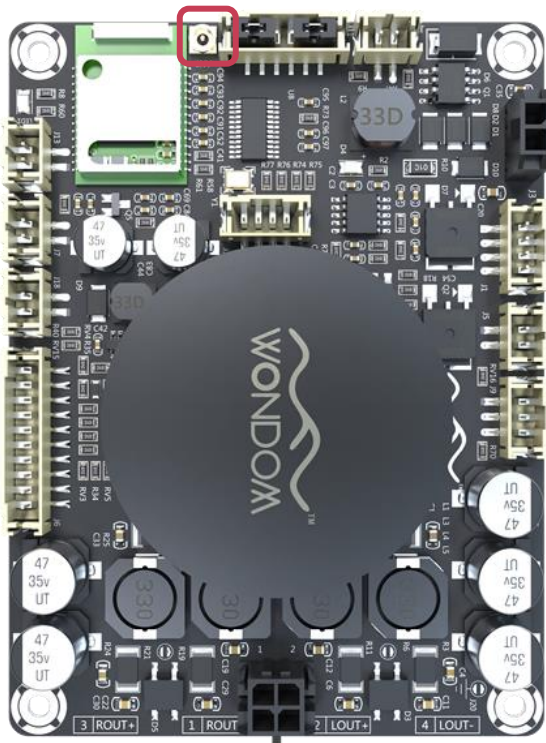
LHDC

Enable optional codecs

Disable optional codecs
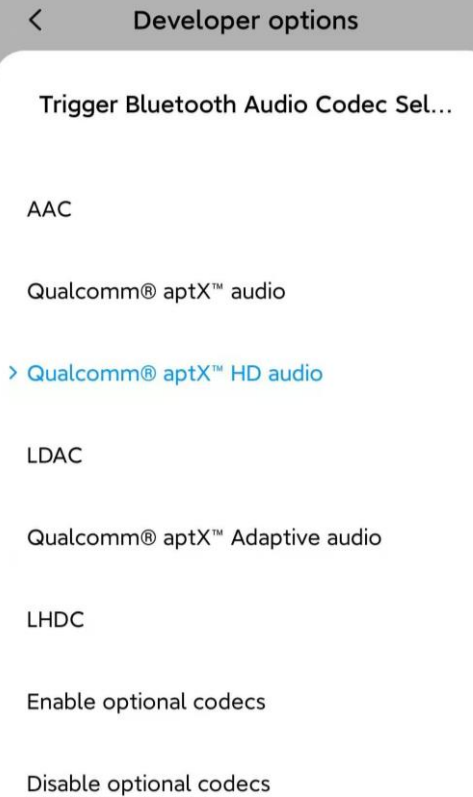
Audio Input

3

3, Bluetooth input

JAB2v2 is integrated with Bluetooth 5.0 module, supporting aptX HD.
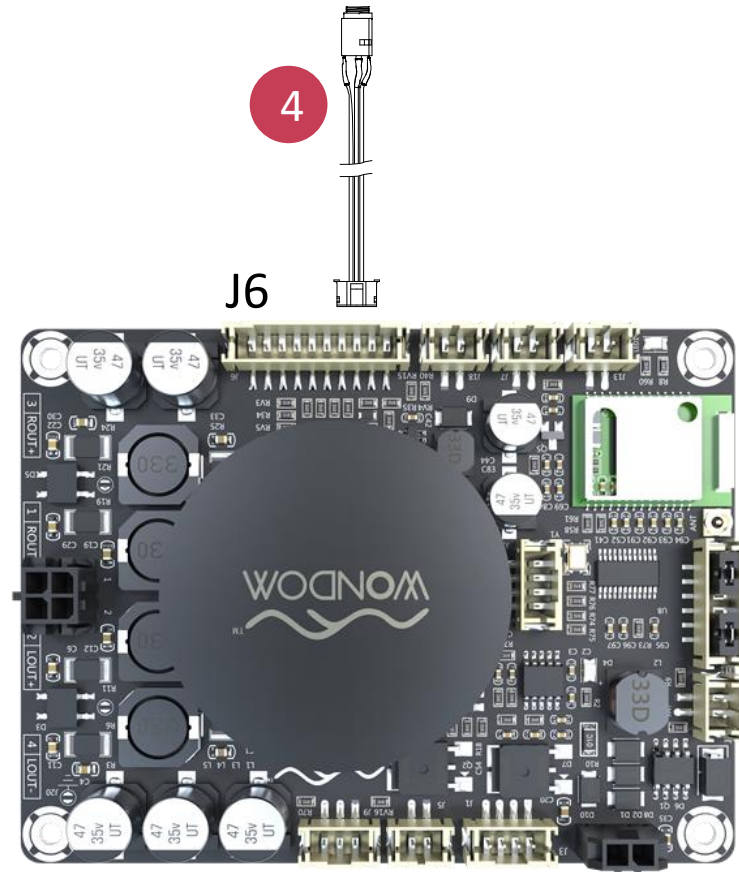
An external antenna port is also provided on board to ensure stable connection even if JAB1 is installed in a cabinet.

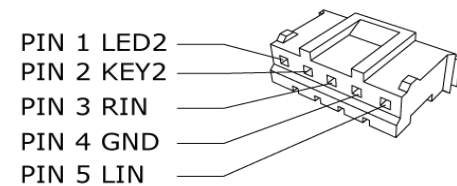You can find the external antenna in Function cables kit (AA-JA11114).

Developer options

Trigger Bluetooth Audio Codec Sel...

AAC

Qualcomm® aptX™ audio

> Qualcomm® aptX™ HD audio

LDAC

Qualcomm® aptX™ Adaptive audio

LHDC

Enable optional codecs

Disable optional codecs
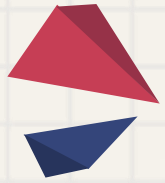
Audio Input

BT & 3.5mm AUX IN

4

J6

4, 3.5mm AUX IN – J6

Pin 6, 7, 8 of J6 is used for AUX-IN.

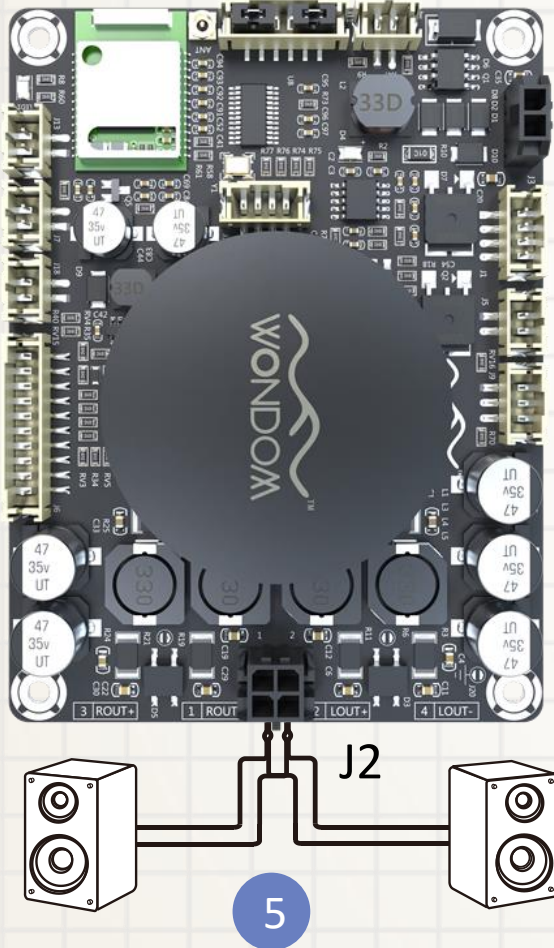You can get the 3.5mm AUX-IN cable in the Functional cables kit. (AA-JA11114 / AA-JA11116)

PIN 1 LED2
PIN 2 KEY2
PIN 3 RIN
PIN 4 GND
PIN 5 LIN
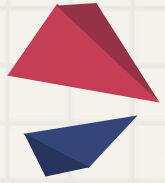
Pin definition of 3.5mm AUX IN cable

Audio Output

5, Speaker Output – J2

JAB2v2 includes four models, 2 x 50W, 2 x 30W, 1 x 60W and 1 x 100W. 2x30W and 1x60W versions do not have built in heatsink and amplifier chips are different.
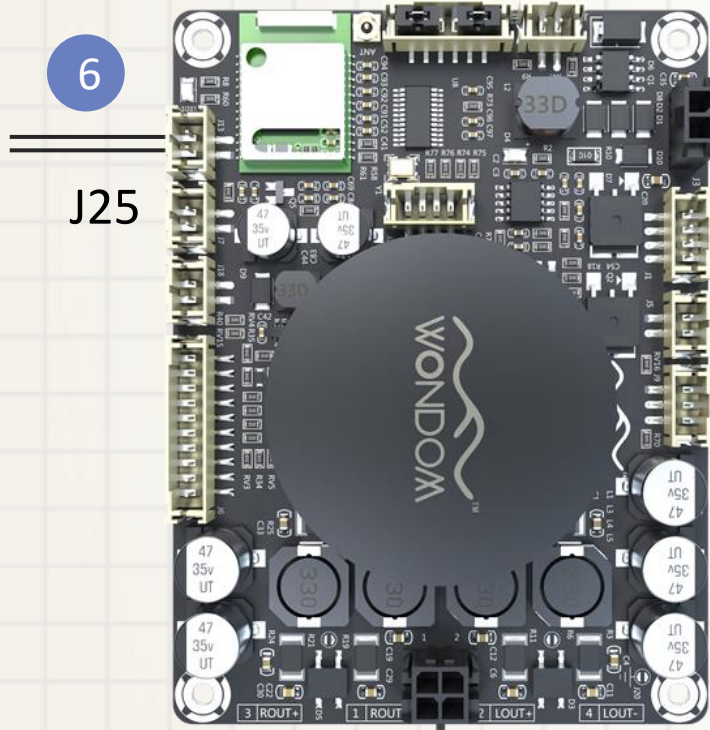
Speaker output connector is a Molex-MicroFit-4Pos-2x2 3mm. Take care of the connector polarity definition, if connected incorrectly, you might damage your speaker, cannot get sound output, or get incorrect audio phase.

A speaker cable comes with JAB2v2 in the package for easy connection.
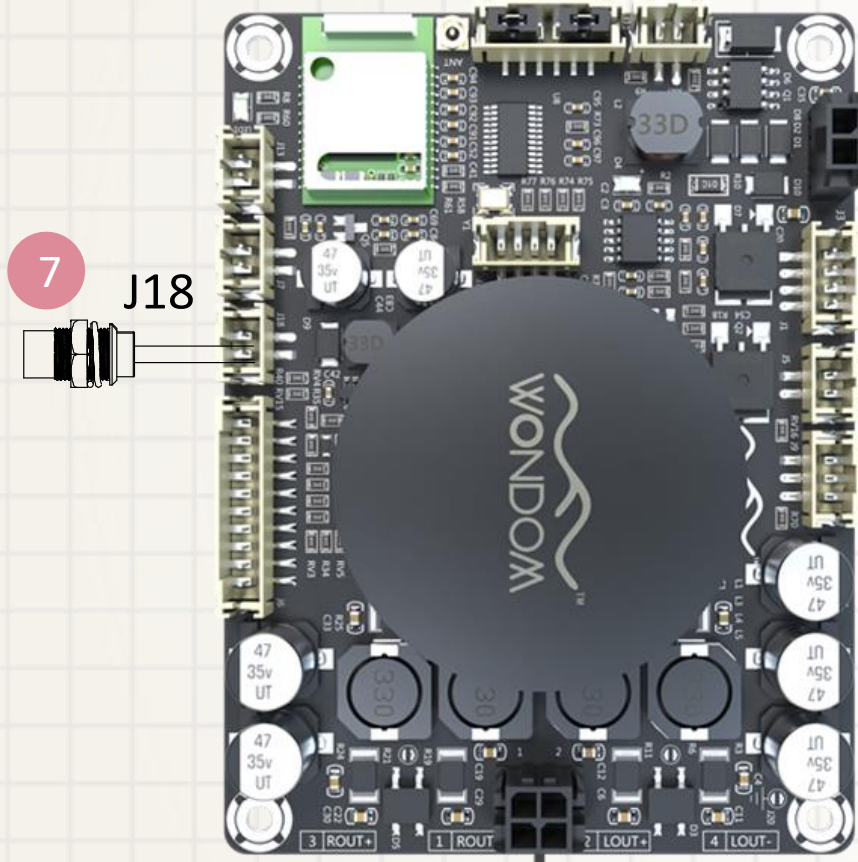
6

J25

6, Mixed Line output – J25

Besides speaker output, JAB2v2 provides a mixed line output. After frequency setting in the PC UI, you can use it as subwoofer signal and build an audio 2.1 system.

Please note that it's line output signal, so an amplifier board is required for connecting with a speaker.
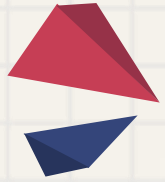
Control

Bluetooth control

7 J18

7, Bluetooth pairing cancellation – J18

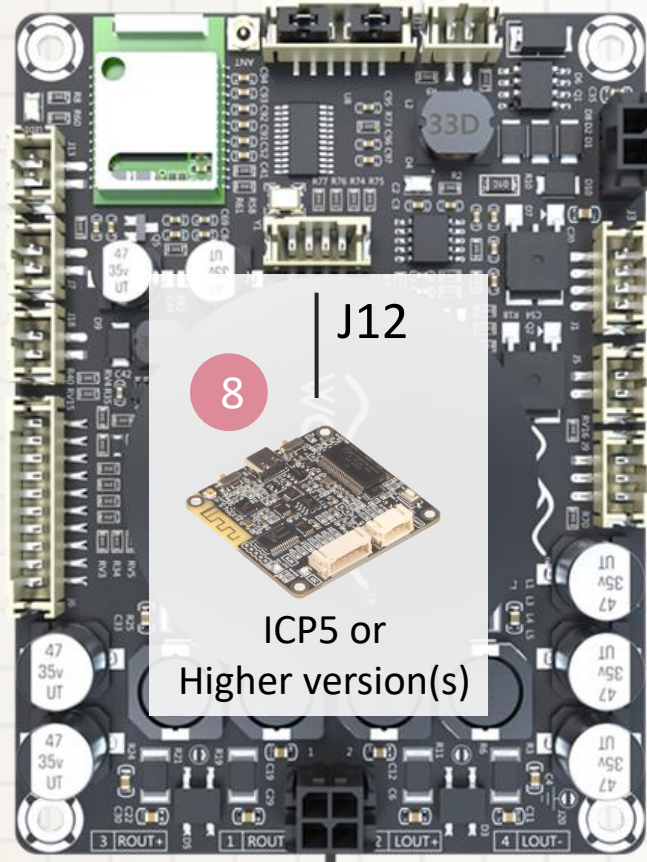When Bluetooth is paired, short circuit J18 to cancel pairing. After cancellation, please release short circuit.

You can find the Bluetooth pairing cancellation cable with a button in the Functional cables kit (AA-JA11114 / AA-JA11116).
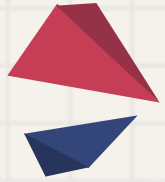When Bluetooth is paired, press the button for cancellation.

Control

Programming

8, PC UI control – J12

J12

8

ICP5 or
Higher version(s)

Customers can connect JAB2v2 with ICP5 or higher version(s) to get To get PC UI control, SigmaStudio Control or Bluetooth LE control.
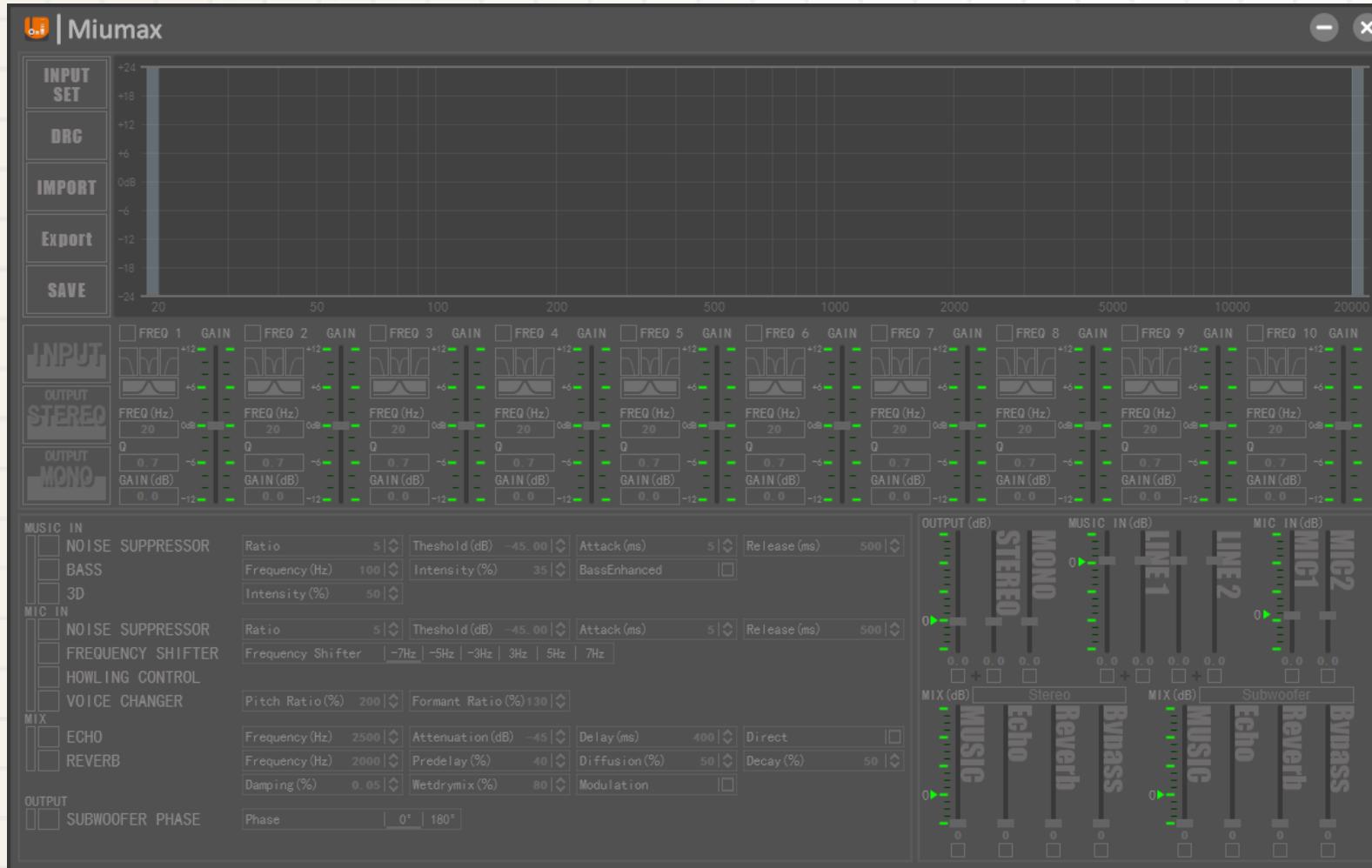
With PC UI, you can adjust parameters of the audio system to customize your audio.

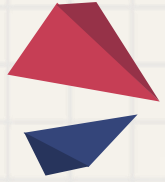As for details, please refer to 'PC UI control' part.
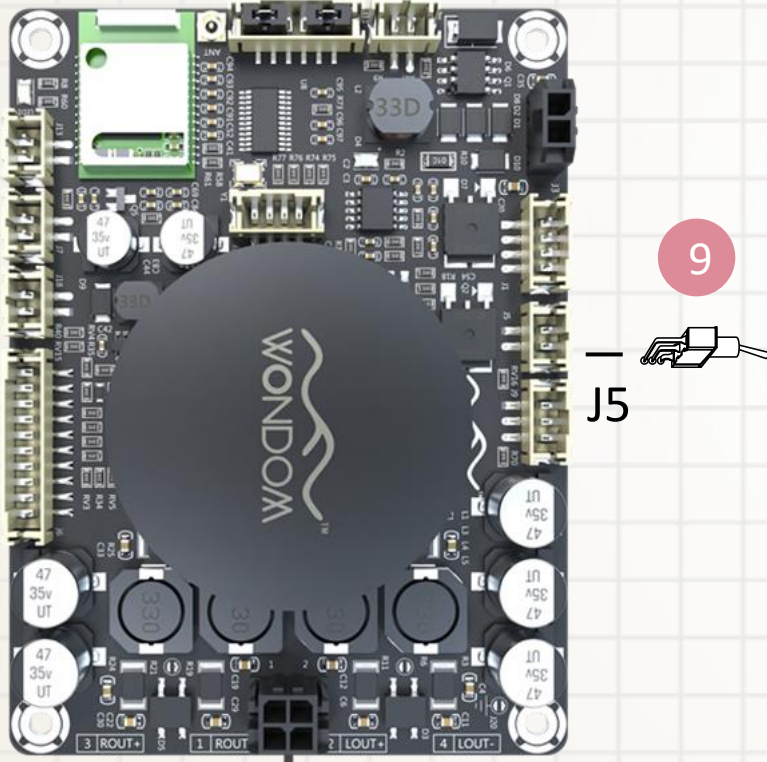
Control

PC UI Control

Multiple Functions:
- Gain adjustment
- Volume adjustment
- High-pass filter
- Low-pass filter
- Noise suppressor
- Bass
- 3D
- Frequency shifter
- Voice changer
- Echo
- Reverb
- EQ setting
- Graphic Interface

Control

Shutdown control

J5

9

9, Shutdown Control – J5

Shutdown control function is equipped on JAB2v2.

Short circuit J5 to enter into shutdown mode, in which mode, JAB2v2 would be powered off.
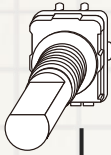Once you release the short circuit, JAB2v2 will re-run.

You can find the PH-2Pos shutdown control cable in the Functional cable kit (AA-JA11114 / AA-JA11116).
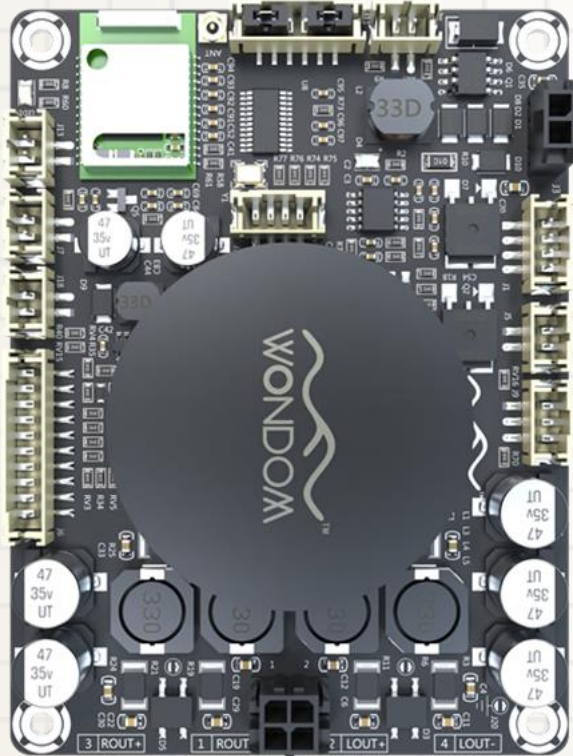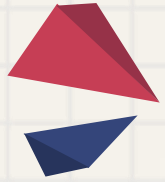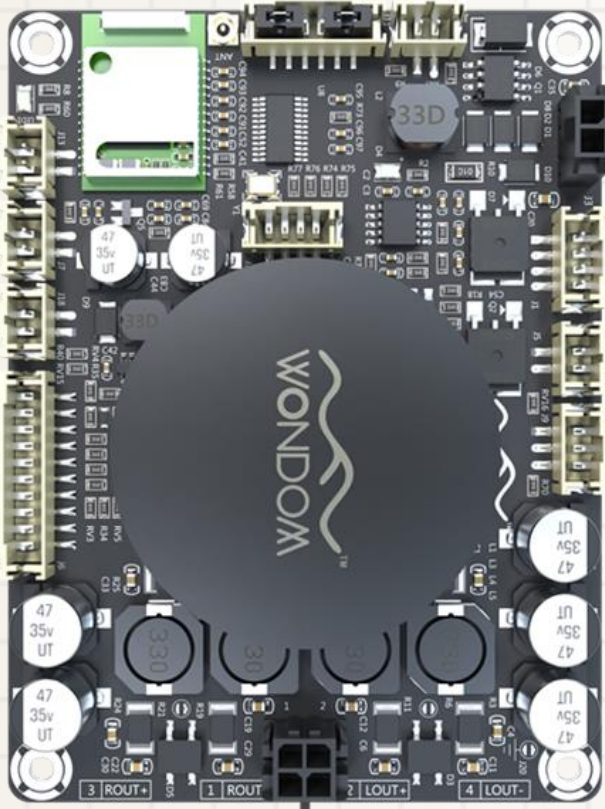
11

J11

11, Volume Control – J11

Connect J11 with external potentiometer to control volume. The external volume control cable and potentiometer is in the Functional cables kit (AA-JA11114).

As shown in the picture, there are two jumpers coming with J11. Please do not remove them for normal playback unless J11 is used to connect with JAB3 or the external potentiometer.
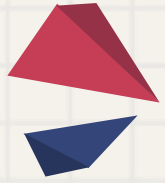
J9   Synchronization Port

10

10, Synchronization Port– J9

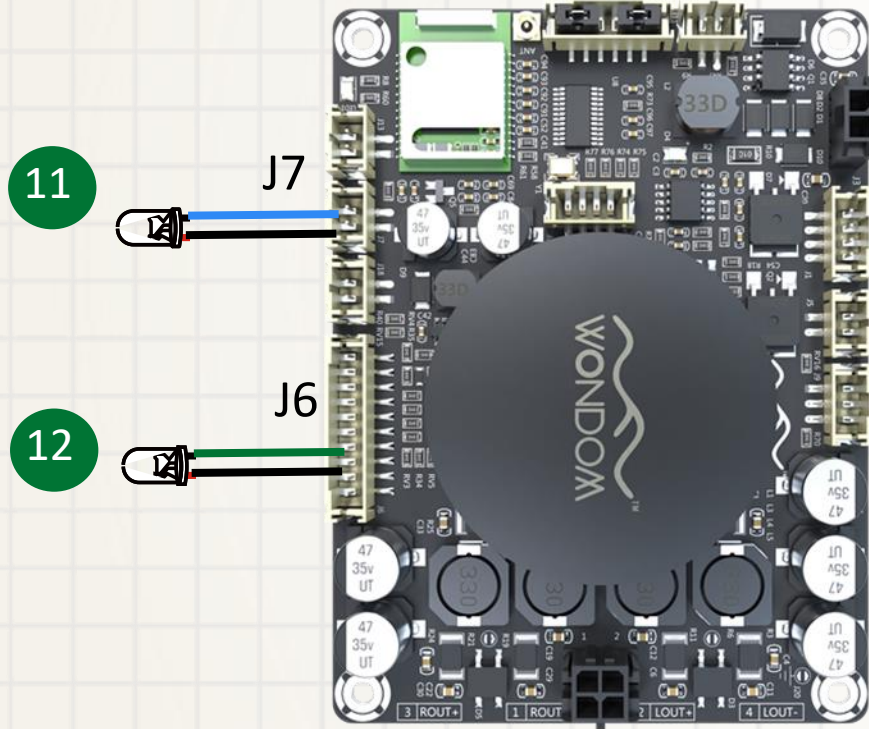JAB2v2 supports connection with JAB3 to build audio 4.0 / 2.1 system.

In order to suppress and synchronize POP noise, JAB2v2 and JAB3 need control connection to make sure the control logic of two boards are consistent. Once connected, the system built with JAB2v2 and JAB3 could be controlled and synchronized by the shutdown control port(J5) of JAB2v2.

When JAB2v2 is used separately, leave J9 open.
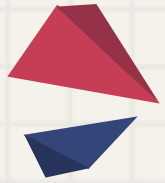
External LED Indicator

Bluetooth & Power

11 J7

12 J6

11, External Bluetooth LED indicator – J7

When Bluetooth is paired, the LED will be ON;
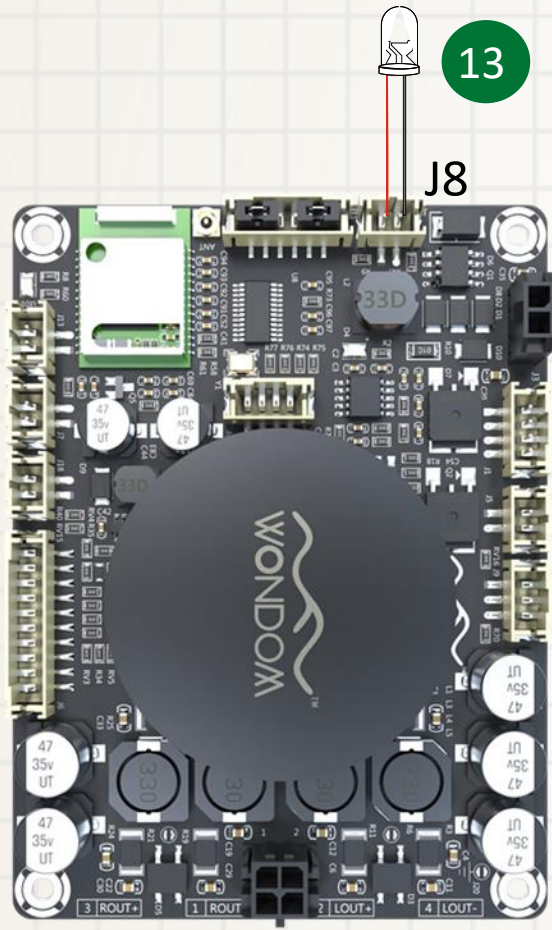When Bluetooth is searching, the LED will BLINK.

12, External Power LED indicator – J6

Pin 3,4 of J6 is used as power LED indicator.
When powered on, the LED will be ON;
When powered off, the LED will be OFF.
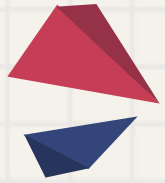
External LED Indicator

J8

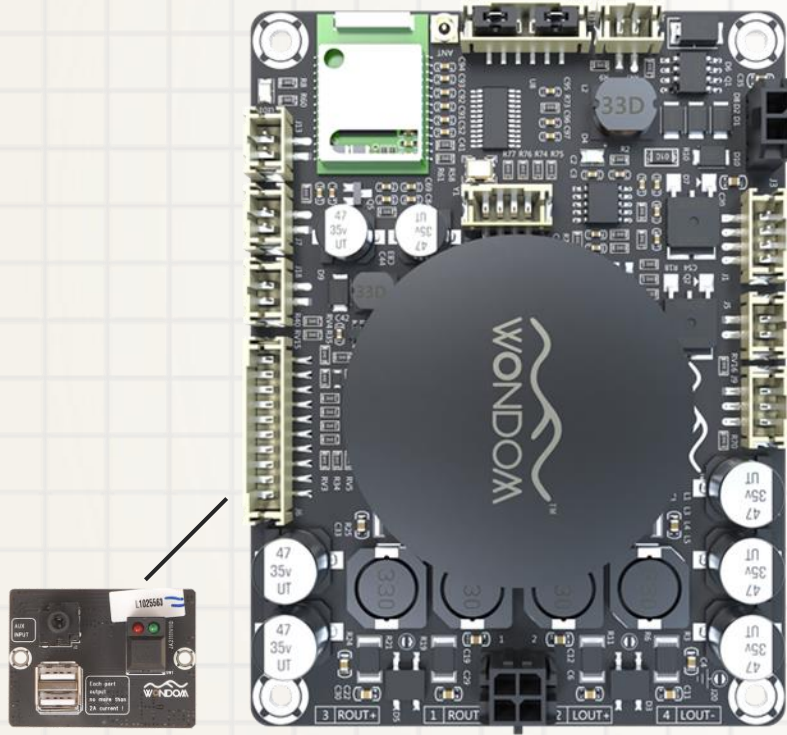### 13, External MPPT Charging LED indicator – J8

When charging, the LED will be ON;
When charging is done, the LED will be OFF.

This indicator is not so accuracy when supply voltage is 12V, but from 15-24V it is indicating properly. And in the final constant voltage charging stage, this LED is not so accuracy too. If the batteries are under balancing, charge status might be incorrect. If no output detected during power up, activate the batteries with plug in a power supply unit.

Extension port

14, Extension port – J6

You can connect JAB2v2 with Interface extension board (AA-JA11112) through J6.

The interface extension board provides:

1. 3.5mm AUX IN port

2. Mute switch

3. USB charging port x 2. Two USB charging ports are both available for BC1.2 Protocol, which can charge all the portable devices, with 2.1A maximum per port.

4. Power indicator and mute indicator

14

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