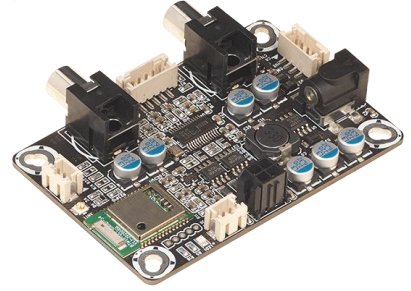


# Bluetooth Receiver Board (BRB) Series

## Bluetooth Audio Receiver Board V5.0 & 2 x 3W Audio Amplifier– BRB3 (AA-AB41136)



### Key Features:

- Bluetooth Ver5.0 (aptX HD)
- Bluetooth Pairing Cancellation
- Supporting 2 x 3W Speaker Output
- Single-end Audio Signal Output
- Wide Power Supply Range
- Bluetooth LED Indicator
- Supporting Battery Power
- Reverse Polarity Protection
- Audio output distortion degree of 0.5% or less
- Size: 3.00 x 2.00 inches PCB Size

### Distributors:



All these boards are per-tested with our power supply solution to comply with FCC and CE. For all customers who need those information, please contact our distributor or Sure Electronics. RoHS compliant will need an MOQ of 1000pcs per order.

Ready for:



### Contact info

• Email:  
info@sure-electronics.com



### Overview

AA-AB41136 is a high performance Bluetooth Receiver Board employing Bluetooth Ver5.0 (aptX HD) module. It provides RCA output and line output for easy connection with audio amplifiers. Besides power supply, BRB3 supports battery power, which ensures its portability and long playback time, making it perfectly suitable for **portable speakers, hotel audio, bookshelf audio, DIY audio, garden audio** and so on. In addition to Bluetooth receiver board, BRB3 can work as a stereo low power audio amplifier, which delivers 3W output power per channel into a 4Ohm load. That means, you can directly use the BRB3 to drive speakers for playing music without any need of an extra audio amplifier.

There is an antenna integrated in the Bluetooth module. What's more, connectors for external Bluetooth antenna and LED indicator are mounted on the board, so you can get a stable connection and an overview of the connection status even if the BRB3 is installed in a cabinet. To help customers with better control of the system, BRB3 is equipped with Bluetooth pairing cancellation function. You can cancel the pairing with a short press.

### Electrical Specifications

Specifications typical @ +25°C, Powered by 12V DC, unless otherwise noted. Specifications subject to change without notice.

Parameter	Conditions	Min.	Typ.	Max.	Units
Power Supply	-	5	12	32	VDC
Line Output	Max input volume	0	-	0.9	Vrms
Quiescent Current	Vin=12V	-	10	-	mA
Working Current	Vin=12V, No speaker output, BT connected, Minimum input volume	-	50	-	mA
Maximum Current	Vin=12V	-	-	0.7	A
BT Wireless Range	No external antenna connected	Open space, no interference	-	80	m
	External antenna connected	Open space, no interference	-	80	m
Operating Temperature*	-	10	20	50	°C
Storage Temperature*	-	-20	20	50	°C

\*Notes: If you need industrial grade temperature, please contact with us.

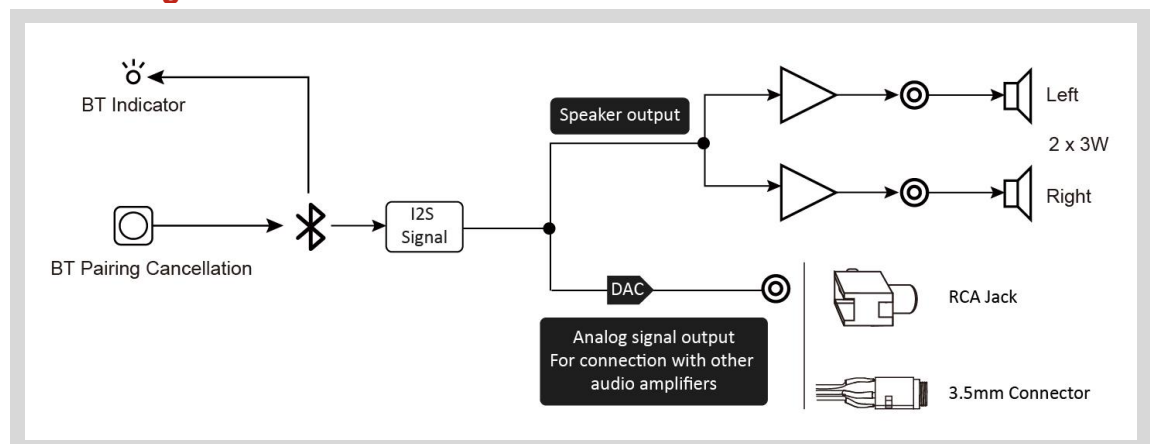
### Model Selection Guide – Bluetooth Receiver Board Series

SKU	Model	Power Supply Range	APT-X	DSP	Stereo Output	Signal Output	Control Button	PCB Size
AA-AB41132	BRB2	DC 8-14V	-	-	-	Analog	-	3" x 2"
AA-AB41136	BRB3	DC 5-32V	HD	-	•	Analog	-	3" x 2"
AA-AB41155	BRB4	DC 9-24V	-	-	External Line Level DAC	Analog	•	3.6" x 2.7"
AA-AB41158	BRB6P	DC 12-24V	-	-	External Line Level DAC	Analog	•	5" x 2.3"

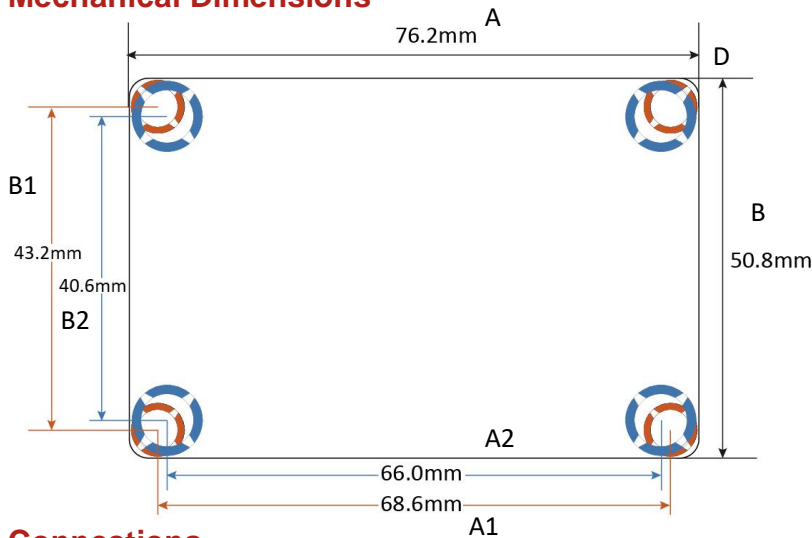
Notes: • means this function is available. - means this function is not available.

BRB3 employs Bluetooth V5.0 module and is integrated with built-in antenna. Besides, they all provide connectors for external Bluetooth antenna.

### Block Diagram



## Mechanical Dimensions

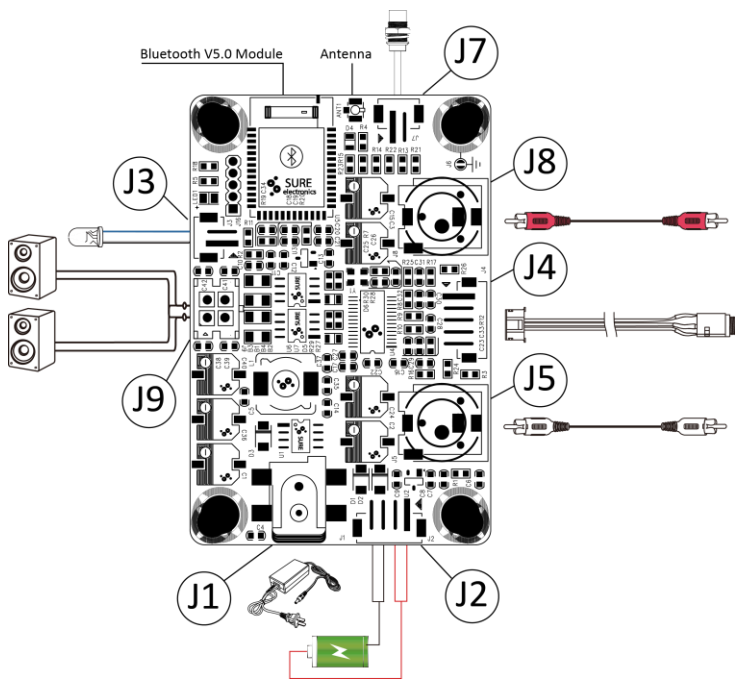


Dimensions	inch/mm
A	3.0/76.2
A1	2.7/68.6
A2	2.6/66.0
B	2.0/50.8
B1	1.7/43.2
B2	1.6/40.6
D	0.12/3.1

### Notes:

- Two kinds of mounting holes on one board
- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.02 (±0.50)

## Connections



## Power Supply

### Power Adapter

- J1, 5.5mm/2.1mm DC Jack
- Inner Outer

### Battery Power Connector:

- J2, PH-4Pos-2mm

Pin	Definition
1	BATT
2	BATT
3	GND
4	GND

It is recommended to use WONDOM Battery Charging, Balance and Protection Board (BCPB series) to power BRB3.

## Audio Output

### Speaker Output:

- J9, MicroFit-4Pos-2.54mm

Pin	Definition
1	LOUT+
2	ROUT-
3	LOUT-
4	ROUT+

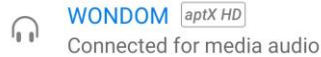
This BRB3 can work as a 2 x 3W audio amplifier to drive speakers for audio playback. You can find the speaker cable in the Functional Cables Kit for BRB3 (AA-AA11435).

## Audio Input

### Bluetooth Input:

- Bluetooth Ver5.0 Module
- There is an antenna equipped in the Bluetooth module.

### PAIRED DEVICES



When connected with Android devices, 'aptX HD' would be shown when successfully paired.

### External Antenna Connector:

- Antenna
- If you want to install the BRB3 in a cabinet, you can use an external antenna. You can find it in the Functional Cables Kit for BRB3 (AA-AA11435).

## Analog Signal Output

### RCA Output:

- J5, J8, RCA connector
- J5, Left Channel  
J8, Right Channel

### 3.5mm Line Output:

- J4, PH-5Pos-2mm

Pin	Definition
1	INR
2	AGND
3	INL
4	NC
5	NC

You can find the 3.5mm output connector cable in the Functional Cables Kit for BRB3 (AA-AA11435).

## Control

### Bluetooth Pairing Cancellation Connector:

- J7, PH-2Pos-2mm

Pin	Definition
1	Pairing
2	3.3V

You can find the Bluetooth pairing cancellation cable with a button in the Functional Cables Kit for BRB3 (AA-AA11435).

Short press the button to cancel Bluetooth pairing.

### LED Indicator

### External Bluetooth LED Indicator Connector:

- J3, PH-2Pos-2mm

Pin	Definition
1	BT LED
2	3.3V

You can find the Bluetooth LED indicator cable in the Functional Cables Kit for BRB3 (AA-AA11435).

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

## Cables

### Basic Cables:

There is no basic cable in the package.

### Functional Cables Kit for BRB3 (AA-AA11435) Includes:

- Speaker Cable x 1
- Bluetooth Pairing Cancellation cable x 1
- 3.5mm output connector cable x 1
- PH 4pin cable x 1
- Bluetooth LED Indicator x 1
- Bluetooth Antenna x 1