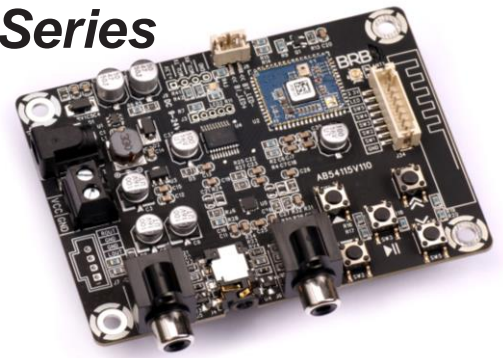


# Bluetooth Receiver Board (BRB) Series

## Bluetooth Audio Receiver Board V4.0 with Control Button - BRB4 (AA-AB41155)



### Key Features:

- 3.6×2.7 Inches PCB Size
- Qualcomm CSR8670 Chipset
- Bluetooth V4.0+EDR, A2DP, AAC
- 2.54 mm 4Pin Joint Wire Output
- Control Buttons on Board(External Buttons Port)
- External Bluetooth Antenna Port (I-PEX Micro RF Coax Connector)
- External LED Indicator Port
- Bluetooth Pairing Name Customizable
- Net Weight: 30g/0062lb (±10%)

### 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	-	9	12	24	VDC
Distortion	Vo=700mVrms, f=1kHz	-	0.12	-	%
Quiescent Current	Vin=12V	-	10	-	mA
Maximum Current	-	-	0.5	-	A
BT Wireless Range	Class 2	10	-	-	m
Operating Temperature	-	0	20	70	°C
Storage Temperature	-	-40	20	105	°C

### Audio Performance

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

Parameter	Conditions	Min.	Typ.	Max.	Units
THD	Vo=700mVrms, f=1kHz	-	0.12	-	%
Output Noise Level	Vin=12V	-	8.5	-	µV
SNR	Vo=700mVrms, f=1kHz	-	92	-	dB
VOM	THD=1%	-	-	1	Vrms

### 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.

### Model Selection Guide—Bluetooth Audio Receiver Board Series\*

Part Number P/N	Model	Output				APT-X	PIN Code Customizable	Dimension
		RCA Analog	3.5mm Analog	I2S	S/PDIF			
AA-AB41151	BRB1	•	•	-	-	-	-	3.0"X2.0"#1
AA-AB41132	BRB2	•	•	-	-	-	-	3.0"X2.0"
AA-AB41136	BRB3	•	•	-	-	•	-	3.0"X2.0"
AA-AB41155	BRB4	•	•	-	-	•	-	3.6"X2.7"#2
AA-AB41156	BRB5	•	•	•	•	•	•	4.8"X3.6"#3
AA-AB41157	BRB6	•	•	-	-	•	-	3.6"X2.7"

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

Sure Electronics provide the following customized services:

\*Bluetooth Pairing Name. This is applicable to all models.

•PIN Code. This only apply to BRB5. (Please send e-mails to store@surrelectronics.com for confirmation before purchasing.)  
•Boot Music. This only applies to BRB1.

Ready for:



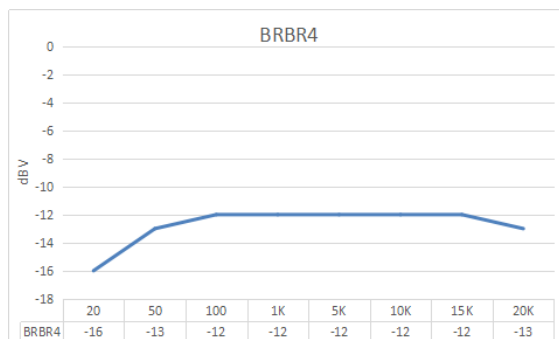
### Contact info

• Email:  
info@surrelectronics.com

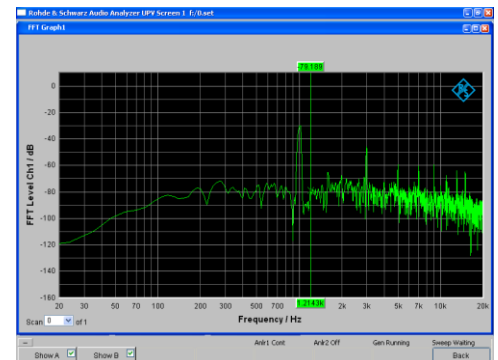


### Typical Performance Graphs

Frequency Response

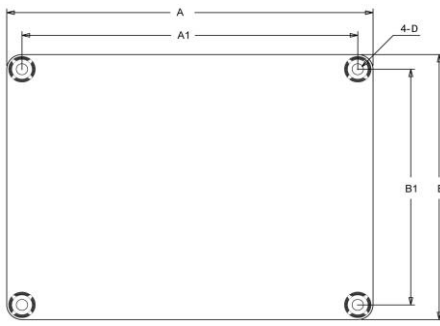


Noise Floor



All parameters were tested with Rohde & Schwarz UPV audio analyzer (AES17 filter enabled) and Audio Precision AUX025 filter. For authorized distributors and OEM customers who need more detailed performance graphs and parameter settings, please send an inquiry e-mail to us. (Not available for retail customers)

## Mechanical Dimensions



Dimension	A (inch/mm)	A1 (inch/mm)	B (inch/mm)	B1 (inch/mm)	R (inch/mm)
#1	3.00/76.2	2.70/68.6	2.00/50.8	1.70/43.2	0.14/3.6
#2	3.60/91.4	3.30/83.8	2.70/68.6	2.40/61.0	0.14/3.6
#3	4.80/121.9	4.40/111.8	3.60/91.4	3.20/81.3	0.15/3.8

### Notes:

- All dimensions are typical in inch(mm)
- Tolerance x.xx=±0.02(±0.50)

### Control Buttons on Board:

Pin	Definition
SW1	Volume Up
SW2	Volume
SW3	Pause/ Play
SW4	Prev
SW5	Next

### Control Buttons External Port:

- J34

Pin	Definition	Pin	Definition
1	3.3V	5	SW3
2	LED	6	SW2
3	SW5	7	SW1
4	SW4	8	GND

### Bluetooth LED Indicator Port:

- J8 Bluetooth LED

Pin	Definition
1	LED-
2	LED+

### Switching Power Supply Connector:

- J1

Pin	Definition
1	VCC
2	GND

### Power Adapter Connector:

- J2 DC Jack ID 2.1mm x OD 5.5mm

Inner ⊕ ⊖ Outer

### Audio Output Connector:

- J5, J6 RCA Jack  
J5 LCH(White); J6 RCH(Red)
- J4 3.5mm Headphone Jack
- J7 Line Out

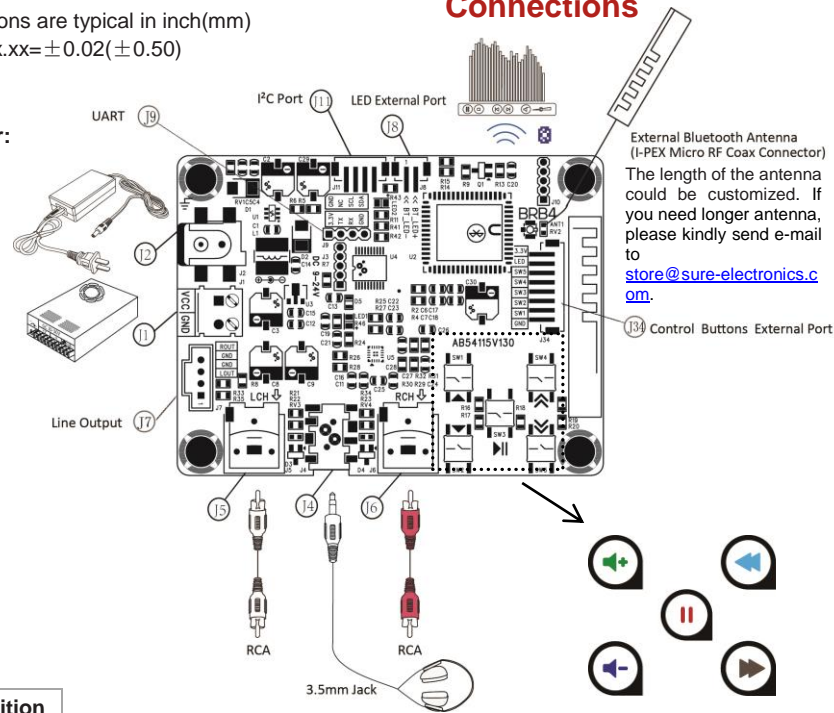
Pin	Definition
•	ROUT
•	GND
•	GND
■	LOUT

### I<sup>2</sup>C Port:

- J11

Pin	Definition	Pin	Definition
1	GND	3	SCL
2	NC	4	SDA

## Connections



External Bluetooth Antenna (I-PEX Micro RF Coax Connector)  
The length of the antenna could be customized. If you need longer antenna, please kindly send e-mail to [store@sure-electronics.com](mailto:store@sure-electronics.com).

Control Buttons External Port

### UART Port:

- J9

Pin	Definition
■	3.3V
•	TX
•	RX
•	GND

## Customized Service

### 1) Bluetooth Paring Name

Customers could pay US\$0.99 EA and send the paring name by e-mail to [store@sure-electronics.com](mailto:store@sure-electronics.com) for confirmation. All models could be pre-programmed for Bluetooth Paring Name. Customers could also rename the Bluetooth with following two methods.(Please kindly be noticed the following two methods do not apply to BRB1 and BRB2.)

### 2) PIN Code

Customer could pay US\$0.99 EA and send the PIN code by e-mail to [store@sure-electronics.com](mailto:store@sure-electronics.com) for confirmation before purchasing. Customized PIN code only applies to BRB5.

### 3) Antenna

The standard antenna is I-PEX. If you want to customize the length of antenna, please send e-mails to [store@sure-electronics.com](mailto:store@sure-electronics.com) for confirmation. In addition, the socket could be customized but please kindly be noticed that MOQ would be required.

### Method 1

- 1.Choosing a PIC KIT 3 for Bluetooth paring name programming.
- 2.Installing the software (for more detailed information, please refer to PIC KIT 3 user manual.
- 3.Connecting the Bluetooth receiver board
  - 3.1. Plug in the USB/ power cable
  - 3.2. Attach the communication cable(s) between programmer and Bluetooth receiver board if using RJ11 plug or connect directly to a 6-pin inline header.
4. Settings
  - 4.1. Under Device Family -> Midrange -> Standard.
  - 4.2. From Device drop down select "PIC16F690"
  - 4.3. From Tools drop down select "Check Communication"

Uncheck the "Hex only" under Program Memory.  
Under EEPROM Data.

Enable the Byte ASCII.

Change the first data to 00 on "00" line.

Bluetooth pairing name: "08" and "10" lines

PIN Code: "18" and "20" lines

Translate your pairing name and PIN code into ASCII, for example, "87 79 78 68 79 77" refer to "WONDOM".

### Method 2

- 1.Choosing a USB to Serial adapter for Bluetooth pairing name programming.
- 2.Connecting the Bluetooth receiver board
  - 2.1. Plug in the USB/ power cable
  - 2.2. Attach the communication cable(s) between programmer and Bluetooth receiver board if using RJ11 plug or connect directly to a 6-pin inline header.
3. Settings
  - 3.1. Double click "Hyper terminal" application and create a new connection, for ex. "BT\_COM"
  - 3.2. Open device manager and check for a new assigned COM port.
  - 3.3. From Connect using drop down select the new assigned COM port.
  - 3.4. From Bits per second drop down select 115200.
  - 3.5. Under File -> Properties -> Setting -> ASCII Setup  
Enable "Echo typed character locally". Click "OK" to finish the setting.
  - 3.6. Enter "BPN: xxxxx" to program your unique pairing name.

➔ See more details in [Bluetooth Audio Receiver Board Brochure.pdf](#)

By