

BRU Products Series

Versatile Amplifier Solutions for Every Audio Need

Quick
Reference
Guide

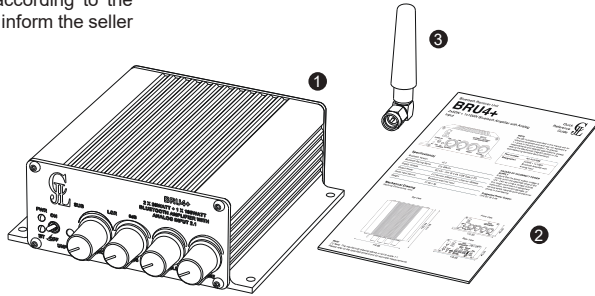


 BRU3P No. of Channel: 2 Output: 2 x 50W Audio Input: Bluetooth and 3.5mm Jack (Analog Input) Power & Bluetooth IC: BP1048 + TPA3116D2	 BRU4+ No. of Channel: 2 + 1 Output: 2 x 50W + 1 x 100W Audio Input: Bluetooth and 3.5mm Jack (Analog Input) Power & Bluetooth IC: BP1048 + ACM8628M + TPA3116D2	 BRU5 No. of Channel: 2 Output: 2 x 300W Audio Input: Bluetooth and RCA Port (Analog Input) Power & Bluetooth IC: BP1048 + TDA3255	 BRU6 No. of Channel: 2 Output: 2 x 100W Audio Input: Bluetooth, RCA & 3.5mm Audio (Analog), TOSLINK (Digital) & USB Type-C Power & Bluetooth IC: QCC3034 + TC2000 + PCM5121
---	--	---	--

Packaging Content

The following items should be placed in the box according to the model you purchased. If there is any missing, please inform the seller or manufacturer as soon as possible.

No.	Description	Quantity
1.	BRU4+ Unit	1 unit
2.	Quick Reference	1 pc
3.	Bluetooth Antenna	1 pc



About the Manual

This manual displays general installation guidelines. However, please note that proper installation of wired cables for the BRU4+ audio amplifier requires qualified experience. If you do not have the knowledge and tools to successfully perform this installation, we strongly recommend consulting an authorized CJL dealer about your installation options. Keep all instructions and sales receipts for reference.

Designed by:



Room 105, No. 115,
East Changjiang Rd., Hefei, Anhui, China.
+86-18589027030 | cjl18589027030@gmail.com
(Please use phone calls or email instead of WhatsApp or iMessage.)

To view our products and purchase, please check the Taobao or Aliexpress website by searching for the product name (example: BRU4+).

PC UI:

Please ensure the BRU5 audio amplifier is connected to the PC and powered on.

- The audio effect page features four distinct Effect Lists, catering to various sources: Effect List 0 for Microphone, Effect List 1 for Music Pre EQ, Effect List 2 for Guitar Amplifier, and Effect List 3 for recorded audio.
- Equalization (Pre-EQ) serves the purpose of shaping the overall frequency response of the music input.
- To access more details about shaping the overall frequency response, click on the right arrow button.
- Users have the option to select from a range of Preset EQ lists, including Classical, Jazz, Vocal Booster, and more, allowing for convenient customization of the audio experience.
- To save your configurations, click on "Downloader" and then select "Save Configurations to Flash." This action ensures that your settings are stored for future use.
- Click "OK" in the pop-up window. This action ensures that the process will continue to run even if the device is powered off.

Where can you get ACPWorkbench.exe?

http://files.sure-electronics.com/download/BDM&BRU_PCUi.zip

You can watch PC UI Control Tutorial Series at link below:

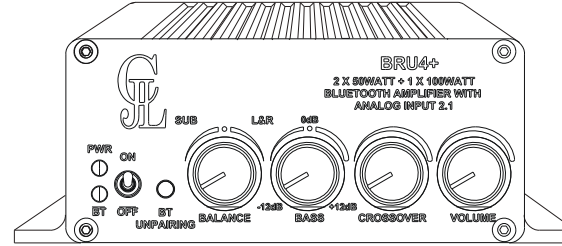
<https://www.youtube.com/watch?v=GRIUdU670HI>

Bluetooth Receiver Unit

BRU4+

2x50W + 1x100W Bluetooth Amplifier with Analog Input 2.1

Quick
Reference
Guide



NOTE

The 2D illustrations provided in this manual are for reference purposes only and may not represent a 1:1 scale of the actual product. For precise measurements and detailed specifications, please refer to the Mechanical Diagram section or the accompanying technical documentation.

Part number	AA-AS32801
Designation	2x50W + 1x100W Bluetooth Amplifier with Analog Input 2.1

Specification(s)

Bluetooth Version	v5.3
Bluetooth Pairing Name	CJL BRU4+
Supply Voltage	DC12V - 24V @ 4.4A, USB Type C-PD
Output Power	2 Channels 50 Watt and 1 Channel 100 Watt
Audio Input Source	Bluetooth and Line Input
Weight	378.4g ± 10g

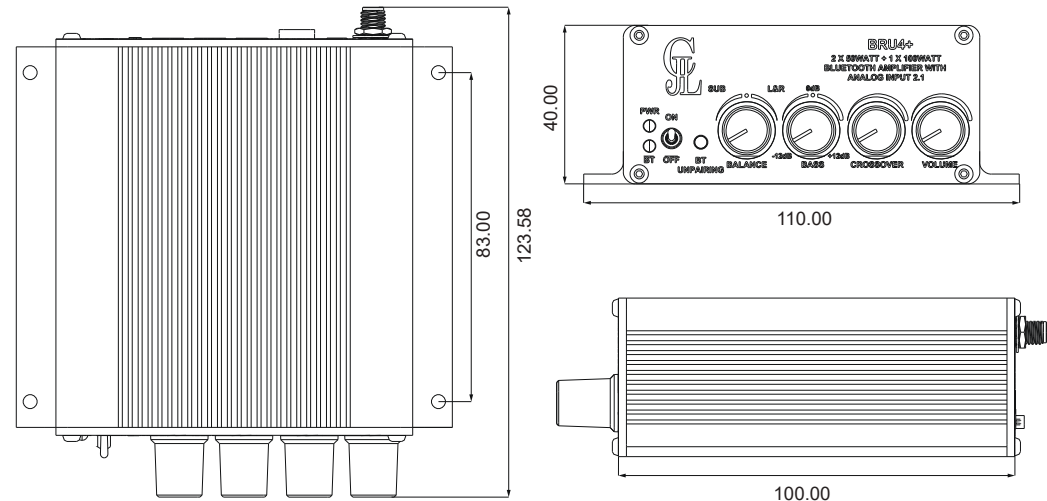
HAZARD OF INCORRECT POWER SUPPLY

Ensure that the power supply voltage is strictly within the specified range of DC 12 V - 24 V, as using a voltage outside this range could result in equipment malfunction, permanent damage, or serious safety hazards such as electrical shorts or overheating.

Suggested Power Supply:
24V DC @ 4.4 A

Mechanical Drawing

(Nominal Dimensions, mm)



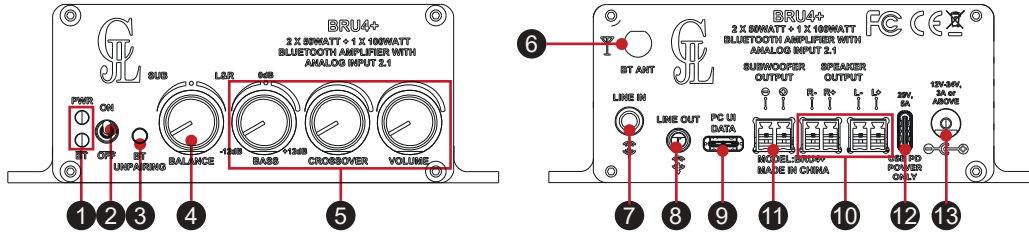
Note:

[1] Note: The mechanical drawing above is not to scale 1:1. Please refer to the specified dimensions for accurate measurements.

Port(s) Layout and Control

Front and rear view of BRU4+ Audio Amplifier Unit

Quick Reference Guide



- Power On/Off and Bluetooth Indicator:**
The indicator LEDs provide visual feedback on the amplifier's status, with the power LED signaling whether the device is turned on or off, while the Bluetooth LED indicates connection status—blinking when in pairing mode and solid when successfully connected to a device.
- Power On/Off:**
This switch is a toggle switch that turns the amplifier ON/OFF by flicking it upward or downward.
- Bluetooth Unpairing Button:**
Use the unpairing button to disconnect the current Bluetooth device for pairing a new one.
- Balance Control:**
This knob allows independent adjustment of the subwoofer and stereo speakers, providing a neutral mix at the center position, weakening subwoofer output when turned counterclockwise, and decreasing stereo output when turned clockwise.
- Bass, Crossover and Volume Control:**
Dedicated bass, treble, and volume output that connect to the main speakers. Includes a control knob for adjusting the bass, crossover, and volume independently of the main speakers, with a crossover frequency adjustment range from 80 to 210 Hz.
- Bluetooth Antenna:**
The Bluetooth Antenna ensures an extended operating range, allowing you to enjoy uninterrupted audio streaming even from a distance, thereby expanding the Bluetooth connection range.
- Line Input (3.5mm Audio Input):**
Connect a 3.5mm audio jack directly to the onboard input for audio signal transmission. This provides a straightforward option for standard audio devices.
- Line Output (3.5mm Audio Output):**
Enable to connect the Bluetooth receiver to external audio equipment such as speakers or amplifiers, to transmit the audio signal for an enhanced listening experience or to extend audio playback to other devices.
- PC UI Programming Port:**
PC UI Programming port offers a personalized and tailored audio experience, delivering exceptional sound quality for any application, be it entertainment or professional audio.
- Speaker Output (Pluggable):**
Use banana plugs or bare wires to connect speakers. Ensure correct polarity for proper stereo imaging. Supports up to 2x50W and 1x100W output, sufficient for most medium-to-large speakers.
- Subwoofer Output (Pluggable):**
Dedicated subwoofer output to connect an active subwoofer.
- Power Input (USB Type-C PD):**
Connect power source for the panel via USB Type-C. This port only support USB Type-C PD 2.0 and for power supply only.
- Power Supply (DC 12V to 24V):**
Connect a DC power source within the specified range. Ensure correct polarity to avoid damage. This port powers the device and supports wide voltage compatibility.

Electrical and Audio Specifications

Electrical and audio performance specifications are typical at +25 °C, powered by 24VDC, unless subject to change without notice. Combination with any add-on module(s) are not tested together.

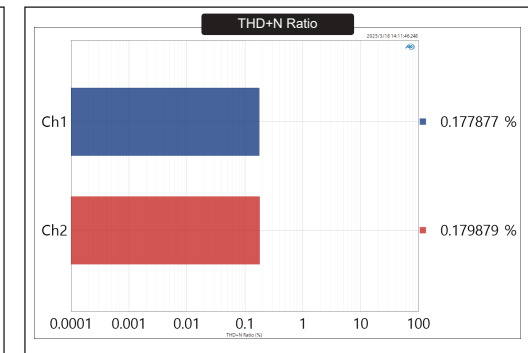
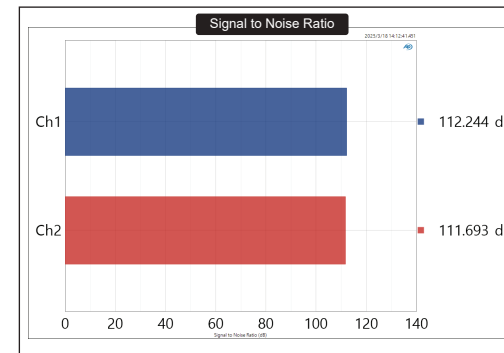
Quick Reference Guide



Parameter	Conditions	Min.	Typ.	Max.	Unit
Number of Channels	-	-	3	-	-
Minimum Load Impedance	Stereo Channels	-	4	-	Ω
	Subwoofer Channel	-	2	-	
Power Supply	DC Supply Voltage	12	-	24	VDC
Idle Current	Power Supply = 24V, without input signal	0.148	0.176	0.218	A
Idle Power	Power Supply = 24V, without input signal	-	5.2	-	W

Parameter	Conditions	Min.	Typ.	Max.	Unit
Amplifier Gain	@Max Volume Level, Stereo Channels, 2x50W, Load Resistance = 4 Ω , Vout/Vin	-	27.7	-	dB
	@Max Volume Level, Sub Channel, 1x100W, Load Resistance = 4 Ω , Vout/Vin	-	32.3	-	
SNR	@Stereo Channels, 2x50W, 1kHz, Load Resistance = 4 Ω , A-weighted	-	112.4	-	dB
	@Sub Channel, 1x100W, 1kHz, Load Resistance = 4 Ω , A-weighted	-	102.4	-	
THD+N	@Stereo Channels, 1W, 1kHz, Load Resistance = 4 Ω , A-weighted	-	0.17	-	%
	@Sub Channel, 1W, 1kHz, Load Resistance = 4 Ω , A-weighted	-	0.006	-	
Noise Level	@Stereo Channels, Analog Output, Load Resistance = 4 Ω , A-weighted	-	36.3	-	μ Vrms
	@Sub Channel, Analog Output, Load Resistance = 4 Ω , A-weighted	-	138.2	-	
Input Sensitivity	@Power Supply = 24V, 2x50W, Load Resistance = 4 Ω , 1kHz, Analog Input	-	775	-	mVrms

BRU4+ Audio Amplifier Unit Performance Graph



For more parameters and performance graphs, please download the electronic version of the BRU4+ User Manual from our website.

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator and your body: Use only the supplied antenna.