BerryBak™

Have Fun with Us

BDSP2.4U PRO

Unbalanced 2IN 4OUT Analog Devices
ADAU1701 DSP Digital Audio Signal Processor

Quick Reference Guide

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.

	Description	Quantity
1	BDSP2.4U PRO Unit	1 unit
2	Quick Reference Guide	1 pc
3	Foot Pad	4 pcs

Note: *Required cables, including RCA cables, a USB Type-C cable, and JST-PH cable, are not included in the package and must be prepared separately*

Introduction

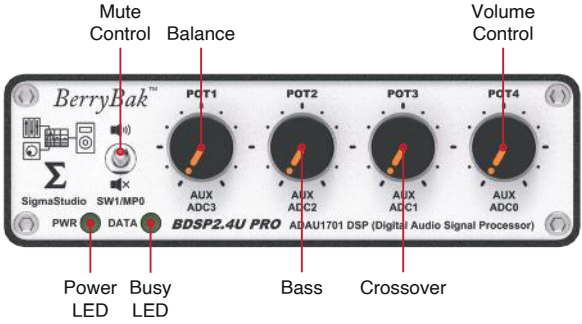
The Berrybak BDSP2.4U PRO is a digital signal processor (DSP) , powered by an Analog Devices ADAU1701 chip. It operates within a voltage range of 4.5V to 5.5V and integrates built-in 24-bit resolution ADC and DAC with a high dynamic range of up to 101.3 dB. This device offers flexible audio processing capabilities, including 2-channel input, 4-channel output, and customizable settings via 4 potentiometers and 1 switch. It supports SigmaStudio programming for advanced audio engineering.

Product Specifications

Power Supply	: USB Type-C (DC 5V,1A)
Line Input/Output	: RCA Terminal(s)
Maximum Input Level	: 1 Vrms
Maximum Output Level	: 2 Vrms
Product Size (inch)	: 3.575” x 6.15” x 1.075” (inch)
Product Size (mm)	: 90.81 x 156.00 x 27.31 (mm)
Weight (ounce)	: 11.35 oz ± 0.3 oz (ounce)
Weight (gram)	: 322 g ± 10 g (gram)

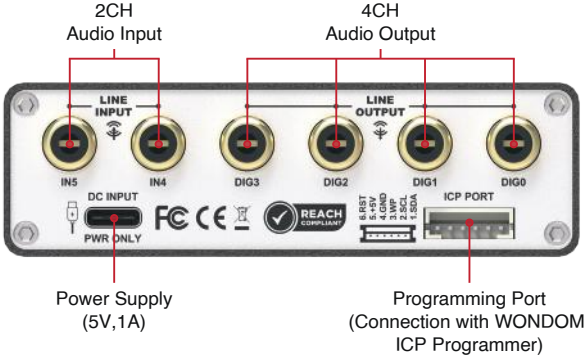
Panel Layouts

Front panel



Panel Layouts

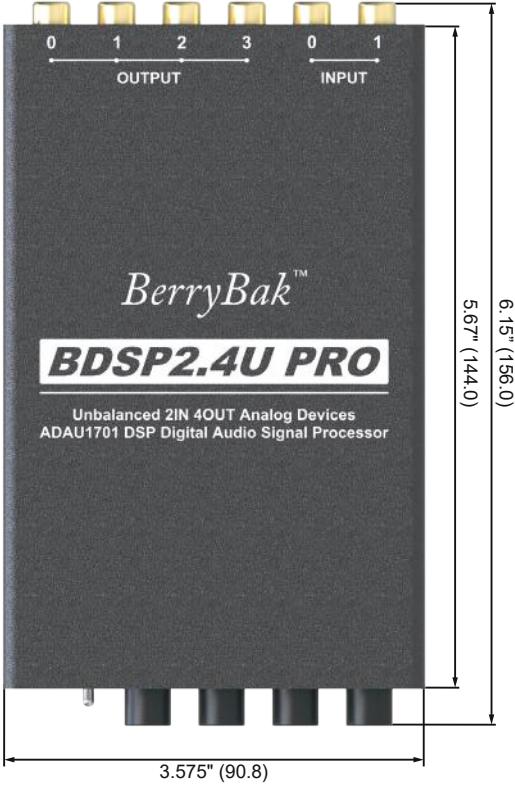
Rear panel



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

Mechanical Drawing

(Nominal Dimensions, inch (mm))



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

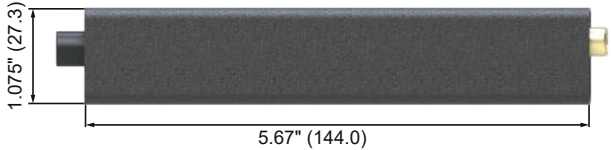
Mechanical Drawing

(Nominal Dimensions, inch (mm))

Front View

Rear View

Side View

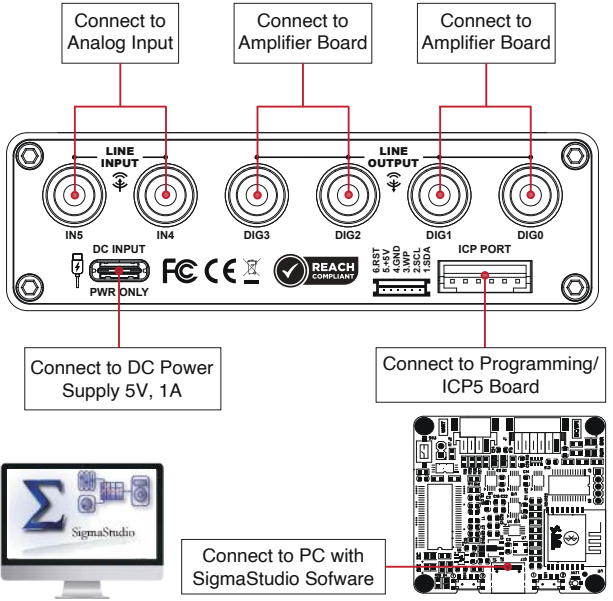


Note: *The mechanical drawing above is not to scale 1:1. Please refer to the specified dimensions for accurate measurements.*

Connection Diagram

Cable Integration Overview

The rear panel features RCA connectors for both audio input and output. To connect your audio source, such as an MP3 player or phone, use RCA cables to link the device's audio output to the left and right input jacks on the panel. The output jacks on the panel can then be connected to your amplifier for audio amplification.



Note: *For detailed information on connector types, including specific details such as color coding for RCA connectors (e.g., white and red), please refer to the User Manual.*

Comprehensive Programming Support

(Nominal Dimensions, inch (mm))

BDSP2.4U PRO supports SigmaStudio programming after connection with ICP5 through the ICP port on the rear panel. You can customize the port functionality according to your requirements.

Berrybak provides comprehensive support for users with the BDSP2.4U PRO, including an open-sourced demo program, a HEX file for restoring factory settings, a programming guide, and video tutorials. Scan the QR codes to get more details.

Open-sourced Files Download Link:

http://files.sure-electronics.com/download/ADAU1701_2IN4OUTUNIT_OpenSource_DemoProgram&HEX.zip

Program Guide

Video
(Basic Programming Guide)

How to Program

Application Notes
(How to Program)

Demo Program

Video
(Demo Program Explanation)

Demo Program Explanation

Application Notes
(Demo Program)

Troubleshooting Guide

Each section addresses specific issues related to software installation challenges, connectivity issues, or operational inconsistencies.

For any issues not covered here, we encourage you to reach out to customer support for further assistance.

⚠ WARNING

1. Always follow the recommended setup and connection steps precisely. Using incorrect cables, improper connections, or outdated firmware may result in device malfunction or damage.
2. Ensure all components are compatible and in good condition before use.
3. If unsure, refer to the user manual or contact customer support for guidance.

Problem	How to Solve
1. Cannot install the Sigmastudio	• Confirm that you have downloaded and installed the correct software.
2. ICP5 cannot be recognized by the PC	• Ensure that the firmware has been updated to the ICP5. • Make sure the Type-C cable is in good condition and supports data communication. • Ensure the ICP5 is not connected to any other device while connected to the PC. • Verify that the WONDOM ICP5 board is connected following the correct steps. • Confirm that the control pin on the WONDOM ICP5 board is in the correct position.

Problem	How to Solve
3. Amplifier no output sound	• Verify that the amplifier is powered at the correct voltage. • Check that the signal input/output interface connections are correct. • Ensure that the amplifier is functioning properly. • Confirm that the amplifier volume is not set to mute.
4. BDSP2.4U PRO does not work properly (cannot play music) when powered and connected to the WONDOM ICP5 board	• Follow the correct steps and verify that the input/output cables are in the correct positions. • Disconnect the WONDOM ICP5 board and reconnect it following the correct steps.
5. Project cannot be downloaded or written to the BDSP2.4U PRO	• Confirm that the ICP5 is recognized by the PC. • Ensure the USB mode of the WONDOM ICP5 board is set to position ② (IIC) and the USB mode is at position ① (USBi). • Try using the "Link Compile Download" option in SigmaStudio and confirm it shows “Active Downloaded” in the lower right corner. • If the download is unsuccessful, troubleshoot the project connection and reconnect the WONDOM ICP5 board following the correct steps (refer to our YouTube video).

Note: For more information, please visit our website and request the electronic version of the user manual for detailed instructions and additional details.

For a more comprehensive user manual, kindly visit our website to access detailed instructions and additional information.

Designed by:

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(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: BDSP2.4U PRO).

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Thanks you for choosing the *BerryBak*™ amplifier for your music application. Berrybak amplifiers are known worldwide for thier great sound, useful features, and affordable price, providing that clean, convienient, Hi-Fi amplifiers can be affordable.