



LB-DAC Bluetooth Transmitter and Optical Digital Audio DAC Owner's Manual



Got a Question or Need Help?

Email our technical support team at: support@miccatron.com for personalized assistance with the setup and use of this product. Please visit our product information website www.miccatron.com for the following:

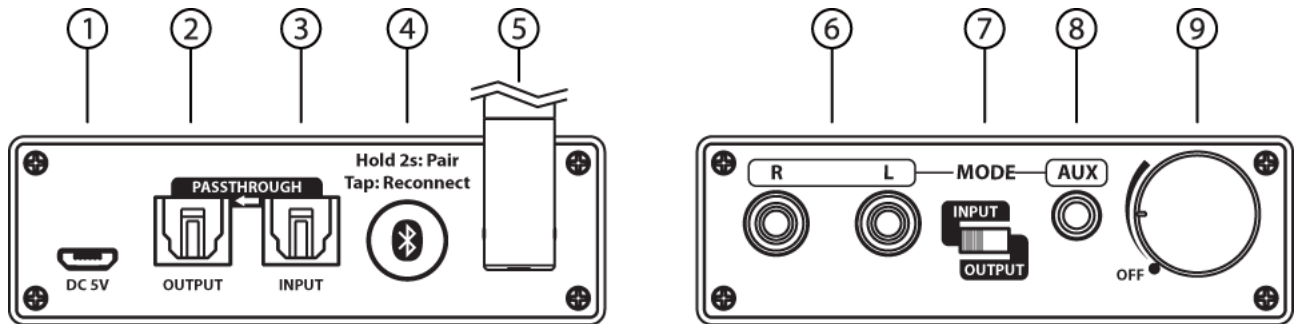
- Product Updates
- User's Manuals
- Troubleshooting Wizard
- Technical Support Request

Warranty: 1 Year

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1 Product Overview

1.1 Connections and Ports



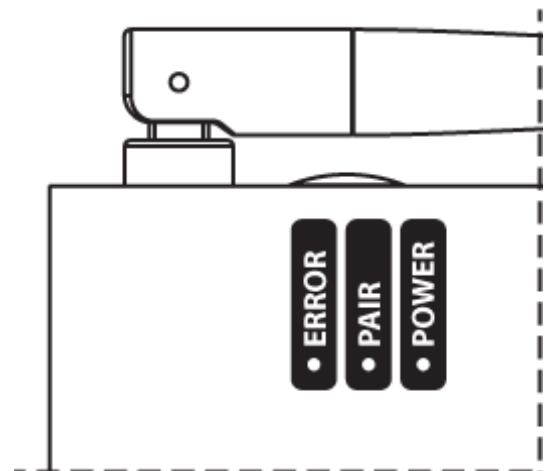
	Name	Description
1	DC 5V	USB DC power input, 5V/0.5A nominal. Use any USB power adapter (not included) or battery power bank (not included).
2	Optical Output	Optical audio output jack, used for pass-through of optical audio input only. Analog audio input will not be converted.
3	Optical Input	Optical audio input jack. Supports PCM audio up to 192kHz/24-bit. Does not support DTS or Dolby audio.
4	Bluetooth Button	Press and hold for 2 seconds to initiate pairing. Quick press to reconnect to last connected device.
5	Antenna	Bluetooth antenna. Use vertical orientation for best range.
6	RCA Jacks	Analog audio jacks for connecting a stereo system. Works as output jacks in Output Mode, and input jacks in Input Mode.
7	Mode Switch	Sets the operation mode to either Input or Output Mode.
8	AUX Jack	3.5mm analog audio jacks for connecting wired headphones in Output Mode; for phones, tablets, and PCs in Input Mode.
9	Power Switch and Volume Knob	Turns the LB-DAC on or off, and controls volume of decoded audio in Output mode. Does not control volume of analog audio input in Input Mode.

There are three indicator lights on the LB-DAC that indicate the current operating status:

Green/Power – Indicates power status.

Blue/Pair –Bluetooth status. This light will flash quickly in pairing mode, and turn solid when connected to a Bluetooth headphone or speaker.

Red/Error – Turns on when incompatible optical digital audio is detected, or if errors have been detected in the audio data stream.



2 Setup and Usage

The Micca LB-DAC is an optical digital audio decoder and Bluetooth transmitter that can remember up to eight Bluetooth headphones or speakers, and can transmit to up to two devices at the same time. Follow the steps below for setup and configuration of the LB-DAC.

2.1 Bluetooth Pairing

2.1.1 To pair the LB-DAC with a Bluetooth headphone or speaker:

- Turn on the LB-DAC.
- Place the headphone or speaker into pairing mode.
- Press and hold the LB-DAC Bluetooth button for 2 seconds to enter pairing mode. The blue “Pair” indicator light on the LB-DAC will flash quickly.
- Wait up to 60 seconds for the pairing to complete. Blue “Pair” indicator light on the LB-DAC will become solid when paired and connected.

2.1.2 To pair with additional Bluetooth headphones or speakers:

- Turn off any headphones or speakers that were previously paired with the LB-DAC
- Turn on the LB-DAC.
- Place the additional pair of Bluetooth headphones or speakers into pairing mode.
- Press and hold the LB-DAC Bluetooth button for 2 seconds to enter pairing mode. The blue “Pair” indicator light on the LB-DAC will flash quickly.
- Wait up to 60 seconds for the pairing to complete. Blue “Pair” indicator light on the LB-DAC will become solid when paired and connected.

2.1.3 To listen to two pairs of Bluetooth headphones at the same time:

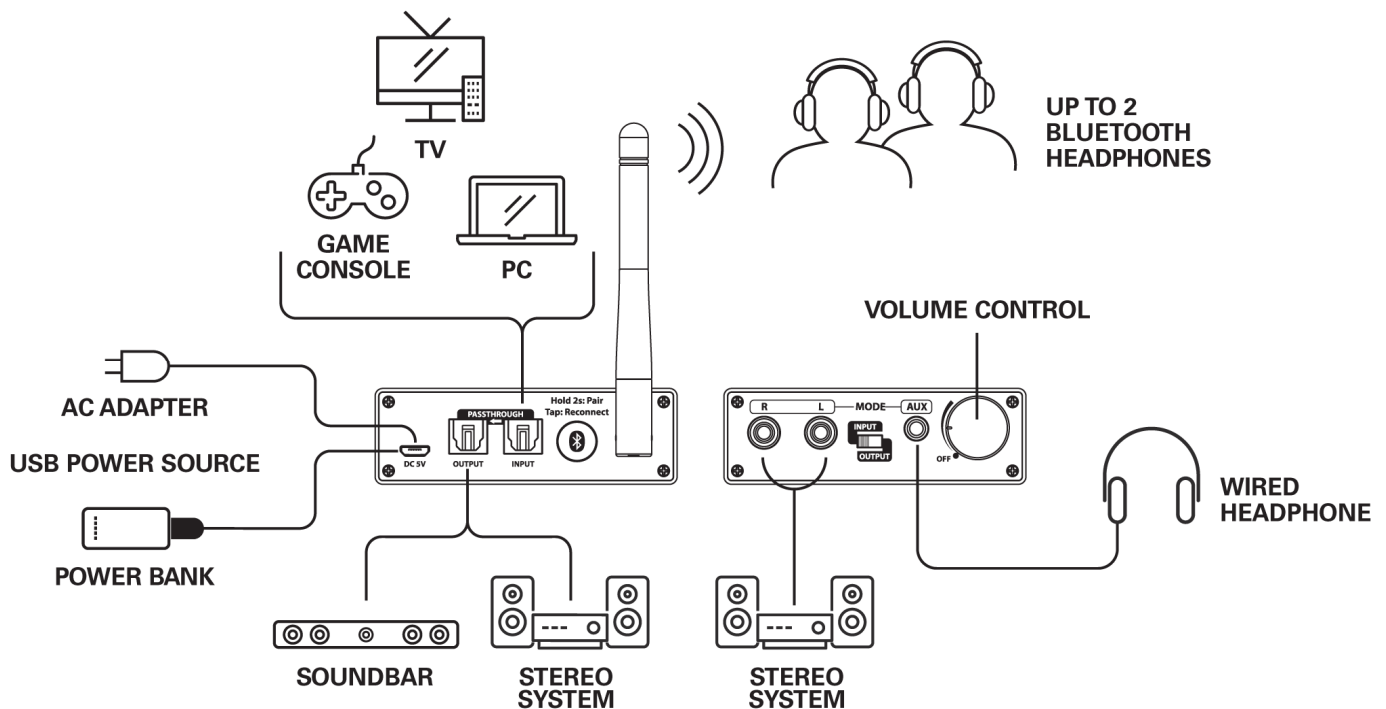
- Ensure that both headphones have been previously paired with the LB-DAC.
- Turn on the LB-DAC.
- Turn on both headphones, and wait for up to 60 seconds for both headphones to connect.
- If the LB-DAC has previously been paired with more than two pairs of headphones, make sure that no more than two headphones are turned on at any time.

2.1.4 To clear the paired device memory:

- Turn on the LB-DAC
- Press and hold the LB-DAC Bluetooth button for 7 seconds. The blue “Pair” indicator light will flash quickly and then turn solid for 1 second.
- The paired device memory has now been cleared.

2.2 Output Mode

Set the “Input/Output” mode switch on the LB-DAC to “Output”. In this mode, the LB-DAC serves as an optical audio decoder and Bluetooth transmitter. It can be used to convert the optical digital audio from a TV, Game Console, or PC into analog stereo and send it to stereo systems, wired headphones, or transmit it wirelessly to Bluetooth headphones or speakers. The possible connections are as shown below:

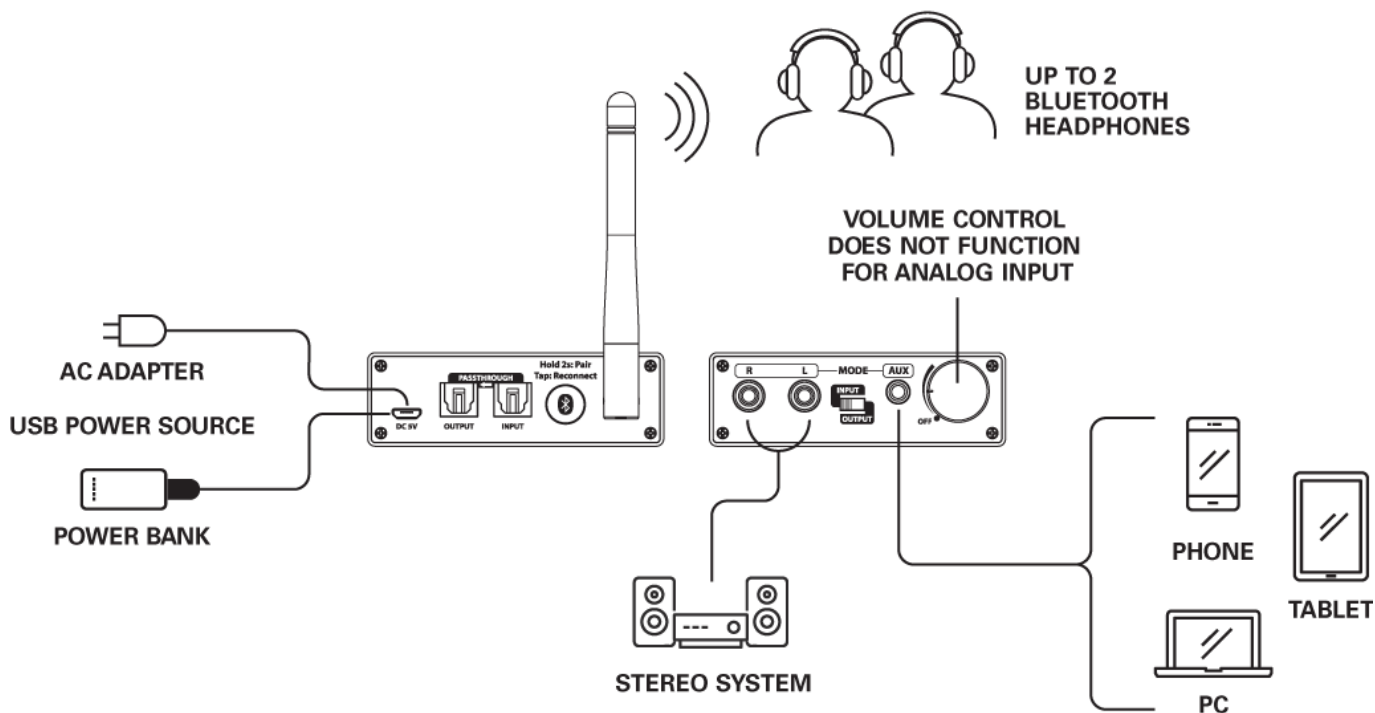


In this mode of operation, the LB-DAC input and output flow is as follows:

1. Optical digital audio input from a source such as a TV, Game Console.
2. The optical digital audio is decoded into analog audio and output over the RCA analog stereo output as well as the 3.5mm AUX audio jack for use by a stereo system or wired headphones.
3. The audio is transmitted wirelessly using Bluetooth to headphones or speakers.
4. The optical digital audio is passed through to the Optical output jack, and can be sent to a stereo system or sound bar for playback.
5. The decoded analog audio is also output over the RCA analog stereo output as well as the 3.5mm AUX audio jack for use by a stereo system or wired headphones.
6. Audio playback volume can be adjusted using the volume control knob.

2.3 Input Mode

Set the “Input/Output” mode switch on the LB-DAC to “Input”. In this mode, the LB-DAC serves as a Bluetooth transmitter that accepts analog audio from a stereo system, phone, tablet, or PC, and transmits the audio wirelessly to Bluetooth headphones or speakers. The possible connections are as shown below:



In this mode of operation, the LB-DAC input and output flow is as follows:

1. Analog audio input from a source such as a stereo system, phone, tablet, or PC.
2. Analog audio input can be connected to the RCA or 3.5mm AUX jacks.
3. The audio is transmitted wirelessly using Bluetooth to headphones or speakers.
4. Audio volume for the analog audio input **cannot** be adjusted using the LB-DAC's volume control knob, and can only be controlled from the analog audio source.
5. The optical audio decoder continues to function in this mode, and any optical digital audio will be decoded and mixed together with the analog audio input.
6. The optical digital audio is passed through to the Optical output jack, and can be sent to a stereo system or sound bar for playback.

3 Troubleshooting

The following are some common questions and answers. For additional troubleshooting resources, visit our product information website www.miccatron.com, or email technical support at support@miccatron.com for personalized assistance.

Optical digital audio has no sound or sounds like static

The LB-DAC supports PCM audio up to 192kHz 24-bit, it does not support RAW/Bitstream, Dolby, or DTS audio formats. Most TVs, game consoles, PCs, DVR machines, and DVD/BD players have a setting for configuring the optical audio output format; refer to their user's manual for instructions on how to change the optical audio setting to PCM.

Optical digital audio has sound, but contains breaks and pops

Check to see if the red "ERROR" light on the LB-DAC flashes when the breaks and pops in sound occur. If this happens, it's most likely that the optical audio cable is not making a good connection. Check the following:

- Make sure that the optical cable jack is securely inserted on both ends.
- Use a good quality cable that is no longer than 15 feet.
- Check to see if the connectors on the optical cable are damaged in any way.

Bluetooth does not pair with a device

The LB-DAC is a Bluetooth transmitter and can only be paired with devices that receive sound, such as headphones and speakers. It cannot be paired with other transmitter devices such as a cellphone, tablet, or computer. The LB-DAC supports standard pairing passkeys of 0000, 1111, 1234, and 8888. Ensure that the Bluetooth headphone or speaker uses one of these passkeys.

Once the LB-DAC enters pairing mode, it takes up to 60 seconds for the pairing to complete. Please wait for at least 60 seconds before giving up. Try turning the LB-DAC off and back on and retry the pairing process. Make sure that no other Bluetooth device is turned on in the vicinity except for the LB-DAC and the headphone or speaker that it is attempting to pair with.

Bluetooth does not reconnect with a device

The LB-DAC remembers up to 8 devices that it has been paired with, and can connect with any two at the same time. To reconnect a particular device with the LB-DAC, make sure that other Bluetooth headphones or speakers are turned off. Please also try the following steps:

- Short press the Bluetooth button on the LB-DAC to initiate reconnect attempt.
- Turn the LB-DAC off and back on.
- Initiate reconnect attempt on the Bluetooth headphone or speaker – please refer to the headphone or speaker's user manual on how to initiate a reconnection.
- If the reconnect still fails, try pairing the LB-DAC with the device again – this should not be necessary, but is the option of last resort if the previous steps have failed.

There is a noticeable audio delay using Bluetooth

The LB-DAC supports aptX Low Latency operation, which requires that the receiving device also supports aptX Low Latency. Check to ensure that your Bluetooth headphone or speaker does in fact support aptX Low Latency operation.

The aptX Low Latency feature is only available when the LB-DAC is connected with one device. When it is connected with two devices at the same time, there will be more noticeable latency due to the limitations of the aptX technology.

In all cases, with or without aptX Low Latency, the audio delay can be minimized by ensuring that there is a clear and strong Bluetooth connection. Try to shorten the distance between the LB-DAC and the receiving device, and avoid any obstructions in the way.

The volume knob does not function

When the LB-DAC is used in Input Mode, the volume knob does not control the analog audio volume that comes in through the RCA or AUX input jacks. Please use the volume control on the audio source to control the audio volume.

While in Input Mode, the optical digital audio input feature of the LB-DAC still functions, and the volume of the decoded audio is controllable using the volume knob. This decoded audio will be mixed together with the analog audio input and transmitted over Bluetooth.

4 Specifications

Bluetooth Version: V4.2, Class 1

Bluetooth Profile: AD2P, Core, aptX, aptX-LL

Bluetooth Range (Ideal): Up to ~330ft (100m) when used with Class 1 receiver

Bluetooth Range (Typical): 33ft to 164ft (10-50m), depending on environment

Analog Audio Output Level: 2 Vrms

AUX Minimum Load Impedance: 16 Ohm

Power Source: 5V/0.5A DC, micro USB power jack

Dimensions (Main Unit): 3.5 x 1 x 3.1 Inch (90mm x 25mm x 79mm)

Weight (Main Unit): 4.2 Oz (119g)

Note: All the information contained in this manual was correct at the time of publication. However, as our engineers are always updating and improving the product, your device's software may have a slightly different appearance or modified functionality than presented in this manual.

5 Additional Information

5.1 Precautions

This product's design has your safety in mind. In order to safely and effectively use this product, please read the following before usage.

5.1.1 Usage Cautions

Users should not modify this product. The power supply nominal voltage is DC 5V/0.5A. When connecting the power adapter cable, make sure it is not damaged or subject to pressure. Never connect the adapter to the product in a humid or dusty area.

5.1.2 FCC Statement

1. 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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

2. 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.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

6 Micca Limited Warranty

Except where indicated differently, the following standard limited warranty is valid for Micca Branded products. Where differences and contradictions occur, warranty terms in product-specific description, listing, invoices, and receipts, those terms shall take precedence over the following standard terms.

The manufacturer warrants all Micca Branded products against defects in materials and workmanship for a limited period of 1 year, unless otherwise superseded by product-specific description, listing, invoices, or receipts. During the limited period, the manufacturer will repair or replace defective products at the manufacturer's sole option. Customer must pay for all return shipping costs during the limited period. The limited warranty period starts at the date of original purchase. This limited warranty applies only to purchases from authorized Micca retailers. This limited warranty is extended only to the original purchaser and is valid only to consumers in the same country as the authorized retailer from which the original purchase was made.

This limited warranty only covers failures due to defects in materials or workmanship that occur during normal use. It does not cover failures resulting from accident, fire, flood, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, modification, service by anyone other than the manufacturer, or damage that is attributable to Acts of God. It does not cover costs of transportation to the manufacturer or damage in transit. Customers should return defective products, freight prepaid and insured, to the manufacturer or authorized warranty service center only after receiving a Return Merchandise Authorization (RMA). Customers are required to provide a copy of the original sales invoice from an authorized retailer when making a claim against this limited warranty.

Within the term of this warranty, defective products sent to the manufacturer or authorized warranty center for warranty service will be assessed a fee to cover shipping and handling of the repaired or replacement product back to the customer. The fee amount depends on the product and covers labor/handling, packaging materials, and standard shipping.

Repair or replacement under the terms of this warranty does not extend the term of this warranty. Should a product prove to be defective in workmanship or material, the customer's sole remedies will be repair or replacement as provided under the terms of this warranty. If the defective product is discontinued the manufacturer may replace the product with an equivalent or superior product at its option. The limit of liability under this warranty is the original purchase price of the product. Any cost of re-installation is the sole responsibility of the customer and that cost shall not be the responsibility of the manufacturer. Under no circumstances shall the manufacturer or its retailers be liable for loss or damage, direct, consequential or incidental, arising out of the use of or inability to use the product. There are no express warranties other than described above.

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