

UNiKA

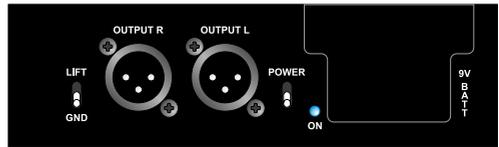
PROFESSIONAL AUDIO

USER GUIDE

Box Series

Made in Taiwan

DI-BT



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OVERVIEW

The DI-BT is a high-resolution stereo direct box designed to wirelessly pair with Bluetooth® enabled devices and seamlessly transfer the streaming audio to a pair of balanced audio outputs. This makes it ideal for connecting a laptop, cell phone or tablet to a mixing console, powered speakers or PA system.

The DI-BT antenna first picks up the streamed digital audio signal and converts to analog audio and feeds directly into the direct box circuit to produce Low-Z balanced left and right stereo signals. A front-panel level control is used to adjust the output volume along with the volume setting for the headphones. This is variable from a mic level output to feed a traditional mixing channel preamp input to a line level to feed the line input on a mixing console, recording system or powered speaker. The 3.5mm mini-headphone output can be used to monitor the stereo signal and test for audio prior to connecting to the PA. The XLR output isolation transformers will help to eliminate noise caused by ground loops. The signal is then balanced to drive long cables without noise.

The DI-BT is easy to setup and use. Once it is powered up and the ON switch is engaged, it will automatically appear as an available device on your Bluetooth enabled computer, tablet or smart phone.

We recommend that you read carefully through the manual in order to familiarize yourself with the DI-BT features so you can get the most out of it.

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If you still need further clarification, please send email to us and we will do our very best to reply you in short order.

FEATURES

- Stereo Bluetooth-Direct Box.
- High impedance direct input for electronic musical instrument signal feed.
- USB type-B Mini port, connect to computer for 5V supply.
- 3.5mm TRS headphone output for audio level monitoring.
- Front panel Level control used for stereo output along with headphone volume adjustment.
- The direct input audio signal will mix to the Bluetooth stereo audio signal at the output stage.
- A Mono-Sum switch to mix the left and right channel signals to form a monaural signal in both output channel.
- Selectable 3 steps attenuator for Hi-Z direct input.
- Accept power from 9V battery or 5V from computer USB.
- 2 channel XLR Balanced Low-Z output with isolation transformer.

The DI-BT is a high-resolution stereo direct box designed to wirelessly pair with Bluetooth® enabled devices, once it is powered up, it will automatically be listed as an available device on your Bluetooth enabled computer, tablet or smart phone.

A professional Hi-Z direct input is also equipped, this is most commonly used with guitar pickups or keyboards, it also can be fed either from a line-level output from the head (pad set to -20dB) or from the amplifier power output .

A stereo pair of balanced XLR audio outputs with adjustable level control then feeds the signal to a microphone preamplifier, PA system, mixing console or even a powered speaker!

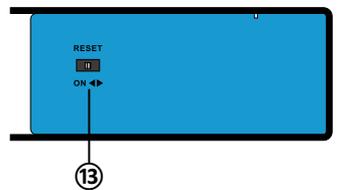
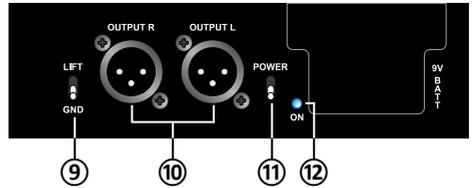
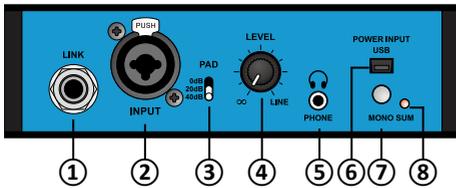
The transferred Bluetooth Streaming audio can be monitored on headphones through the 3.5mm analog output jack to check signal quality and level before connecting to a sound system. Two isolated output transformers are equipped to eliminate any hum or buzz caused by ground loops. To further reduce susceptibility to noise, this is augmented with a ground lift switch that lifts pin-1 on both XLR jacks.

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AUDIO CONNECTION



Audio connection of the DI-BT



- ① ¼" TRS Link output socket, internally parallel wired to the input.
- ② Input:
XLR-¼" TRS Combo jack, unbalanced Hi-Z input used to connect instruments.
- ③ Input PAD:
0dB, -20dB & -40dB selectable 3 steps attenuator reduces the input sensitivity to prevent overload.
- ④ LEVEL Control:
Used to set the overall output level also the headphone output level changes simultaneously.
- ⑤ HEADPHONE:
Mini 3.5mm (1/8") TRS headphone output is used to check the output from the Bluetooth audio source for trouble shooting.
Works with ear-buds and standard headphones.
- ⑥ USB-B Mini Port:
Connects from the PC or Mac using a USB type B-mini cable.
This port delivers only the power to the DI-BT without any audio data.
- ⑦ Mono Sum switch:
When the switch is depressed, the left and right channel signal will be mixed to form a monaural signal in both output channels.
- ⑧ Mono Sum indicator:
The LED light up show that the Mono-Sum mode is in use.
- ⑨ GROUND LIFT:
Used to help eliminate hum and buzz caused by ground loops, lifts pin-1 on both XLR output connectors.
- ⑩ 2 CHANNEL OUTPUTS:
2 channel transformer balanced outputs, XLR-3 male connector, pin layout follows the AES format.
- ⑪ POWER switch:
Used to switch the power ON/OFF.
- ⑫ POWER ON/OFF LED indicator.
- ⑬ Reset switch:
Turn the RESET switch to the ON position and the DI-BT will be available to pair with Bluetooth devices.
- ⑭ The Red and Blue LEDs will alternate indicate that the DI-BT is in search mode for pairing.

USB Mini-B Connection

The DI-BT uses a USB Mini-B connector and cable for its power requirements. Use the 'Mini-B to TYPE A' USB cable and connect to a computer, USB hub or the USB wall charger. You may also use any standard USB wall charger that is included with most phones and tablets, as the DI-BT will only draw a small amount of current.



USB wall charger



USB type-A fits all laptop

USB type Mini-B connect to the DI-BT

Instrument direct input & Parallel link connection

The most common use of the direct input is with guitar pick-ups or keyboards. The optimal setting for this is most likely with the pad switch set to 0dB, although with some high-output pick-ups the performance of the direct input may be improved if the pad switch is set to -20dB to prevent possible clipping of the input signal.

The instrument is connected to the XLR-1/4" Combo jack socket, and a parallel link feed taken from the other jack socket to the instruments' own amplifier.

The direct input can also be fed either from a line-level output from the head (pad set to -20dB) or from the amplifier power output (speaker output, pad set to -40dB).

Eliminating hum and buzz

The DI-BT is equipped with isolation transformers to eliminate hum and buzz caused by stray DC voltage and ground loops.

Computers, optical projectors and other consumer equipment can be particularly noisy, anyone that has incorporated audio with a projector knows that noise can be a serious problem. Therefore, DI-BT isolated signal feature can effectively fight the noise problem caused by the system.

Computers are often the source for noise problems in audio systems, so greater care is certainly needed to keep things quiet, use the ground lift switch to disconnect the pin-1 of the output XLRs from the ground, it will one step further to effectively solve the noise problem.

Using the headphone output

The DI-BT is also equipped with a stereo headphone output. This headphone amplifier is controlled by the master output level control, and is designed to be used to check signal before plugging into a PA system. Adjusting the level control on the DI-BT will affect both the XLR and the headphone output.

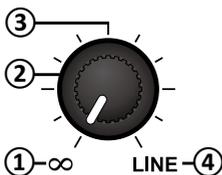
The 3.5mm (1/8") output is designed for both ear buds and standard TRS stereo headphones where tip-left, ring-right and the sleeve is ground.



Be careful! If you push the level too hard it may distort or cause hearing damage! The DI-BT is intended for use by professional audio engineers who are aware of the importance of listening at safe levels.

This same audio level control sets the output going to your PA or recording system. Once you have determined that the signal from the computer is OK, reset the level to 7 o'clock (turn OFF). Plug the XLR outputs to your audio system using standard balanced mic cables. Turn on the audio system, bring up the level and then turn up the level on the DI-BT.

In order to prevent accidents, the test should be kept at low volume, the following are the reference location of the volume controller:



- ① 7 o'clock (marked ∞ position) - Turn OFF.
- ② Mic level (DI Box).
- ③ Music Instrument level.
- ④ Line level.

Bluetooth Pairing

Once the DI-BT is power ON, the Red and Blue LEDs on the top of the unit will flash, at this point you can turn the RESET switch to the ON position and the DI-BT will be available to pair with Bluetooth devices, check the available devices on your Bluetooth enabled playback source; the DI-BT should appear in the list, select the DI-BT, your playback device will be paired, the blue LED will light up constantly, and the DI-BT automatically converts the streaming audio to analog for connection to audio systems.

1. Make sure the DI-BT volume control is turned fully counter clockwise. (marked ∞ position) Turn OFF.
2. Enable Bluetooth pairing on your Bluetooth enabled device.
3. Connect your DI-BT to USB power and turn ON the unit.
4. Turn on the DI-BT RESET switch to enable Bluetooth pairing.
5. Red and Blue LED's will flash alternately showing the DI-BT is in search mode for pairing.
6. Your Bluetooth device will identify the DI-BT in the Bluetooth devices menu.
7. Select the DI-BT in your Bluetooth devices menu.
8. Once your Bluetooth device has paired with the DI-BT, the blue LED will light up constantly, when audio is playing, the blue LED will flash every three seconds.
9. Once your Bluetooth device has been paired to the DI-BT, if either one of the paired moves out of the range and when it is returned back on in-range the DI-BT will automatically pair to the same Bluetooth device.

Going out of range

If your Bluetooth device moves out of the range of your DI-BT (greater than 10 meters), the device playback will pause and the blue LED on the DI-BT will stop flashing to show the unit is in 'Stand-by' mode. Once the device is returned back in range, the DI-BT will automatically reconnect to continue playing back audio from your Bluetooth device.

Stand-by mode will not allow another Bluetooth device to pair with the DI-BT.

If your Bluetooth device goes out of range from the DI-BT for more than two minutes or the unit is in 'Stand-by' mode and you want to connect a different Bluetooth device for playback, you will need to be done by turning the RESET switch off and back to on to enable Bluetooth pairing

The DI-BT allows for reception distances of up to 10 meters (33'), which can be significantly extended under ideal conditions. Should you experience interference or signal dropouts, ensure that there is a clear line of sight between the DI-BT and your Bluetooth device. You can also adjust the angle and placement of the DI-BT, as this may also affect the reception.



If you're using a computer with a USB Bluetooth dongle, some pairing features may not be automatically available.

Please refer to your dongle's software manual for instructions on how to activate these features.

Testing and Using

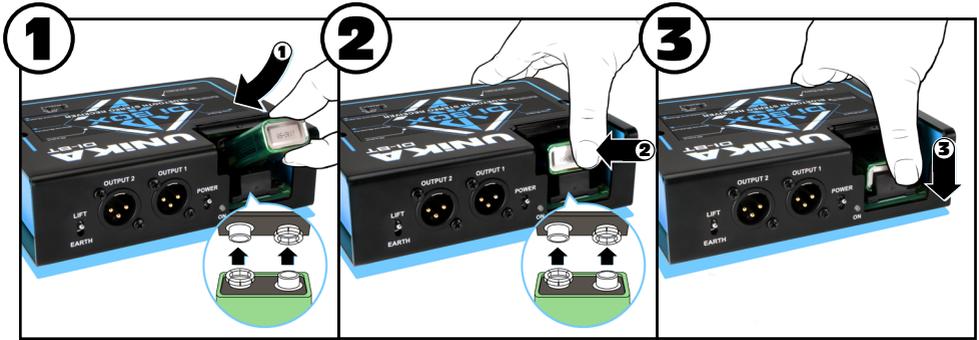
First, set the DI-BT's LEVEL control to the 7 o'clock (off) position. This will allow you to adjust the output level on the fly.

It's a good idea to start testing the Bluetooth audio with a sound file you are familiar with. Set your source's output level and the level of the media playback software (if applicable) at 80% or higher for optimal signal to noise. A higher volume from the source will allow the DI-BT to operate at the lowest noise floor. Keep in mind that various media files will playback at different volume levels depending on your software and how the sound file was recorded.

Slowly raise the output level of the DI-BT. It is good practice to always test at a low volume to ensure proper connections have been made and all devices in the signal chain are set up correctly and working. This way, should a device not be turned on or a connection not fully made, it will not create a loud transient 'pop' in the PA that could damage a tweeter or annoy your audience. When satisfied, slowly increase the input gain on your mixing console until you reach an appropriate level.

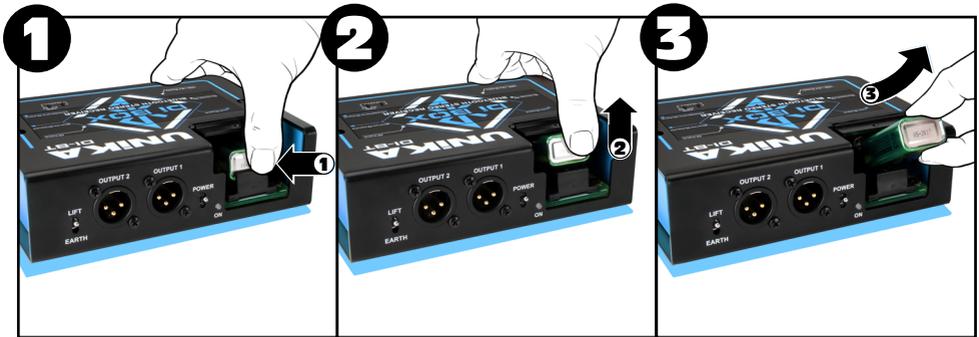
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HOW TO REPLACE DI-BOX BATTERY



Battery installation:

- ① Put the battery into the slot.
- ② Verify the battery polarity is correct and snap it in.
- ③ Press it down into the battery holder.



Battery removal:

- ① Press and hold the battery on its bottom end.
- ② Then pull to lift it up from the battery holder.
- ③ Lift off the battery.

SPECIFICATIONS

(Specifications are subject to change without notice.)

Audio Circuit Design	Bluetooth A2DP transceiver with audio line drive
Standard	Bluetooth V4.2 Standard

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Compatibility	All Bluetooth A2DP compliant devices		
Device Operating Range	10m (line of sight)		
Frequency response	20Hz to 20KHz , +1/-1 dB		
Dynamic range	>90dB		
Noise	<-90dBu, unweighted 20Hz to 20KHz.		
Maximum output	+9dBu. (source file dependency)		
Total harmonic distortion	Less than 0.008% at 1KHz, 0dBu output		
Hi-Z Direct Input	Unbalanced, XLR/¼"TRS combo jack. (Pin-2 Hot, Pin-3&1 Ground).		
Link Output	Unbalanced, Parallel link output ¼"TRS jack for feeding to other equipment.		
Direct Input Attenuator	At 0dB	At -20dB	At -40dB
Direct Input Impedance	1 MΩ	47KΩ	47KΩ
Max. input level before Clip	+9dBu	+29dBu	+49dBu
Output impedance	200Ω nominal, Transformer Balanced.		
Analog output	Balanced transformer isolated (XLR-M, Pin-1 Ground, Pin-2 Hot, Pin-3 Cold)		
Headphone output	3.5mm TRS, (Tip-Left Ch. Ring-Right Ch., Sleeve-Ground)		
Level control	Variable, works on headphone and XLR outputs		
Ground lift	Lifts pin-1 on both XLR outputs		
DC Power	derives power from USB, plug-in 9V battery		
Finish	Durable powder coat		
Size	158mm (W) x 112mm (D) x 46mm (H)		
Weight	1.2Kg, 2.6lbs.		
Construction	14 gauge steel cabinet & chassis		

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