

DBI-04 I/O INTERFACE

Premium DANTE network audio bridge for fixed installation: 4 balanced outputs + 4 GPIO



DBI-44 I/O INTERFACE

Premium DANTE network audio bridge for fixed installation: 4 balanced inputs & outputs + 4 GPIO



ENGLISH

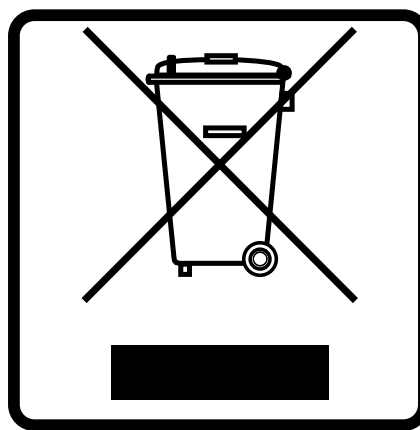
Getting started Manual

Other languages can be downloaded from:
WWW.SYNQ-AUDIO.COM



Version: 1.21





EN - DISPOSAL OF THE DEVICE

Dispose of the unit and used batteries in an environment friendly manner according to your country regulations.

FR - DÉCLASSER L'APPAREIL

Débarrassez-vous de l'appareil et des piles usagées de manière écologique Conformément aux dispositions légales de votre pays.

NL - VERWIJDEREN VAN HET APPARAAT

Verwijder het toestel en de gebruikte batterijen op een milieuvriendelijke manier conform de in uw land geldende voorschriften.

DU - ENTSORGUNG DES GERÄTS

Entsorgen Sie das Gerät und die Batterien auf umweltfreundliche Art und Weise gemäß den Vorschriften Ihres Landes.

ES - DESHACERSE DEL APARATO

Reciclar el aparato y pilas usadas de forma ecologica conforme a las disposiciones legales de su país.

PT - COMO DESFAZER-SE DA UNIDADE

Tente reciclar a unidade e as pilhas usadas respeitando o ambiente e em conformidade com as normas vigentes no seu país.

GETTING STARTED MANUAL

Thank you for buying this Synq® product. To take full advantage of all possibilities, please read these operating instructions very carefully.

FEATURES

- Premium quality analog / Dante network audio bridge for fixed installation.
 - **DBI-04:** Converts DANTE® Network audio to 4 hi-grade balanced analog outputs
 - **DBI-44:** Converts 4 hi-grade balanced analog inputs to DANTE® Network audio and also converts DANTE® Network audio to 4 hi-grade balanced analog outputs
- On the DBI-44 all 4 (LINE/MIC) inputs equipped with -20dB PAD & 48V Phantom power.
- GIGABIT Ethernet I/O based on Hi-speed Marvell switch (no linking delays)
- Built-in DSP AUDIO PROCESSING on all channels: perfect for use as DANTE enabled speaker management processor, but also deployable in many other applications:
 - 10 parametric EQ's on each input and output
 - Compressor / limiter on each input and output
 - Fully configurable 8x8 AUDIO MATRIX between inputs and outputs for local premix, flexible routing, ...
 - Configurable delay on all outputs: up to 34m
- Memorize and recall up to 8 user presets / shows.
- Integrated WEB SERVER: fully graphical and very user-friendly user interface for easy configuration and DSP control on any network device!
- The included "SYNQ Network Discovery Tool" makes it extremely easy to find the device(s) on a local network and open them on any desktop computer, without any knowledge of the IP-address.
- **Support for the OSC protocol:** all functions can be controlled by user-created apps running on iPhones, Android phones, Tablets and desktop computers
- Extremely high audio quality: S/N > 120dB ~ THD: < 0.003%
- GPI/GPO ports for extra functionality and extra control of different functions:
 - **GPI:** connect switches, potentiometers, control gear, alarm systems, ...
 - **GPO:** control all kinds of external gear, triggering PowerPoint presentations, ...
- Fully equipped with EUROBLOCK connectors for easy installation.
- Complies with IEEE 802.3-2005 standard for Information Technology
- Extreme reliability, thanks to the exclusive use of industrial-grade components, such as: high-end Burr Brown audio DACs, AKM ADCs, Würth electrolytic capacitors, ...
- POWER options:
 - External 24Vdc input (EUROBLOCK)
 - PoE: Power over Ethernet (PoE class 0)
- HOUSING: ½ 19" diecast housing with different installation options:
 - 1 unit fits in a 1U 19" rack (19" adapter optional)
 - 2 units fit together in a 1U 19" rack (adapters included)
 - Easy wall mounting with optional wall mount adapter

BEFORE USE

- Before you start using this unit, please check if there's no transportation damage. Should there be any, do not use the device and consult your dealer first.
- **Important:** This device left our factory in perfect condition and well packaged. It is absolutely necessary for the user to strictly follow the safety instructions and warnings in this user manual. Any damage caused by mishandling is not subject to warranty. The dealer will not accept responsibility for any resulting defects or problems caused by disregarding this user manual.
- Keep this booklet in a safe place for future consultation. If you sell the fixture, be sure to add this user manual.
- To protect the environment, please try to recycle the packing material as much as possible.

Check the contents:

Check that the carton contains the following items:

- This "getting started" user manual
- DBI-04 or DBI-44
- Power cord

SAFETY INSTRUCTIONS:



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: To reduce the risk of electric shock, do not remove the top cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.



The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.



This symbol means: indoor use only



This symbol means: Read instructions

- This appliance is intended for use in moderate climates.
- To prevent fire or shock hazard, do not expose this appliance to rain or moisture.
- To avoid condensation to be formed inside, allow the unit to adapt to the surrounding temperatures when bringing it into a warm room after transport. Condense sometimes prevents the unit from working at full performance or may even cause damages.
- This unit is for indoor use only.
- Don't place metal objects or spill liquid inside the unit. No objects filled with liquids, such as vases, shall be placed on this appliance. Electric shock or malfunction may result. If a foreign object enters the unit, immediately disconnect the mains power.
- No naked flame sources, such as lighted candles, should be placed on the appliance.
- Don't cover any ventilation openings as this may result in overheating.
- Prevent use in dusty environments and clean the unit regularly.
- Keep the unit away from children.
- Inexperienced persons should not operate this device.
- Maximum save ambient temperature is 40°C. Don't use this unit at higher ambient temperatures.
- Minimum distances around the apparatus for sufficient ventilation is 5cm.
- Always unplug the unit when it is not used for a longer time or before you start servicing.
- The electrical installation should be carried out by qualified personal only, according to the regulations for electrical and mechanical safety in your country.
- Check that the available voltage is not higher than the one stated on the rear panel of the unit.
- The socket inlet shall remain operable for disconnection from the mains.
- The power cord should always be in perfect condition. Switch the unit immediately off when the power cord is squashed or damaged. It must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Never let the power-cord come into contact with other cables!
- When the power switch is in OFF position, this unit is not completely disconnected from the mains!
- This CLASS I appliance must be connected to MAINS socket outlet with a protective earth connection in order comply with safety regulations.
- In order to prevent electric shock, do not open the cover. Apart from the mains fuse there are no user serviceable parts inside.
- **Never** repair a fuse or bypass the fuse holder. **Always** replace a damaged fuse with a fuse of the same type and electrical specifications!
- In the event of serious operating problems, stop using the appliance and contact your dealer immediately.
- Please use the original packing when the device is to be transported.
- Due to safety reasons it is prohibited to make unauthorized modifications to the unit.

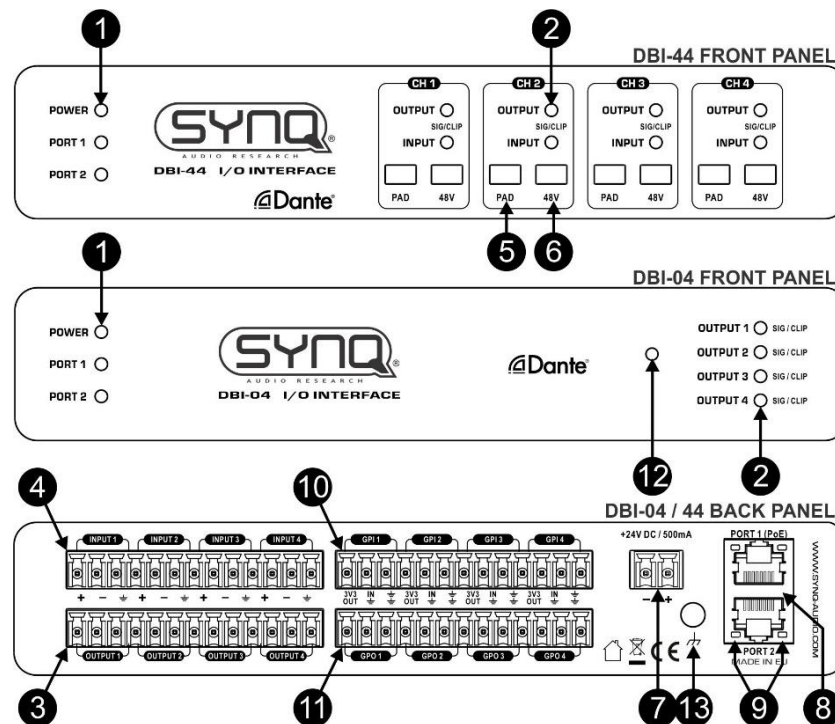
INSTALLATION GUIDELINES:

- Install the unit in a well-ventilated location where it will not be exposed to high temperatures or humidity.
- Placing and using the unit for long periods near heat-generating sources such as amplifiers, spotlights, etc. will affect its performance and may even damage the unit.
- Two units can be mounted side-by-side in a 19-inch rack. Attach the unit using the 4 screw holes on the front panel. Be sure to use screws of the appropriate size. (screws not provided) Take care to minimize shocks and vibrations during transport.
- When installed in a booth or flight case, please make sure to have good ventilation to improve heat evacuation of the unit.
- To avoid condensation to be formed inside, allow the unit to adapt to the surrounding temperatures when bringing it into a warm room after transport. Condense sometimes prevents the unit from working at full performance.

CLEANING THE APPLIANCE:

Clean by wiping with a polished cloth slightly dipped with water. Avoid getting water inside the unit. Do not use volatile liquids such as benzene or thinner which will damage the unit.

FUNCTIONS



- 1. POWER LED:** lights up in red when the box is powered.
- 2. Signal/clip LEDs:** light up in green when the respective channel receives audio signals. Light up in red when the audio signals are saturating and clipping the respective channel.
- 3. AUDIO OUT:** 3-pin header to output balanced audio signals.
- 4. AUDIO IN:** 3-pin header to input balanced audio signals. (only for DBI-44)
- 5. PAD button:** when this button is activated, the audio signal is attenuated by 20dB. This option is useful when connecting a guitar or keyboard directly into the Dante interface without using a DI-BOX. This button lights up in blue when PAD attenuation is enabled on the respective channel.
- 6. 48V button:** when this button is activated, a DC offset of +48V, also called “phantom power”, is added on the signal line. This is needed for some microphones and other specific equipment. This button lights up in red when the +48V power supply is enabled on the respective channel.
- 7. POWER IN:** +24V DC connection to power up the box when no PoE is available.
- 8. ETHERNET ports:** connect the Dante box to the network and can also be used as a switch. Port 1 must be used when powering the Dante box by PoE.
- 9. Activity and Speed LEDs:** activity LED is green, speed LED is orange, both indicate Network status:

Both LEDs off		No network link
Green on, amber off		100/10 Mbps link detected (note: 10Mbps Ethernet is not supported)
Green on, amber on		1 Gbps link detected
Green LED blinking		Network activity

10. **GPI:** General purpose input. In the software these pins can be configured as a digital or analog input. A 3.3V supply and ground pin are provided for each GPI pin. The signal level should always remain between ground and 3.3V.
11. **GPO:** General purpose output. These pins are open collector outputs with a 1k ohm series resistance.
12. **RESET:** Use a long thin object, like for example a toothpick, to gently press the button behind the panel. Pressing and holding the button during power on will put the device into safe mode. In this condition it is possible to access the simple update page to update the firmware.
13. **GROUND:** Additional ground to connect the DBI-04 / DBI-44 to earth.

CONNECTING TO POWER

You can power the unit in two different ways:

- **Power by DC power supply:**

Connect the device with the supplied header to a regulated DC supply of 24V and min. 0.5A. In this way, the Ethernet connection can be daisy chained between several devices. To avoid any latency and clock jitter, a maximum of 6 devices can be daisy chained by Ethernet.

- **Power by PoE power supply:**

The device can be powered by a PoE switch or injector. The maximum power consumption is 12W per device. Only the first Ethernet port is PoE enabled. The second port cannot be used to power up another device by PoE. However, it can be used to link another device by Ethernet. Some PoE switch have the ability to switch off a PoE device when its power consumption is too low. We recommend to disable this feature.

CONNECTING TO ETHERNET NETWORK

There are several ways to power the device and connect it on the network. Each DBI device has an AC/DC and PoE power supply with a dual Gigabit Ethernet port. We recommend the use of Gigabit switches and at least Cat5-E cables in your Dante network to ensure high performances. 100Mbps switch can be used in a Dante network but the quantity of audio channels is limited (<32) and QoS (Quality of Service) must be active.

Attention: Avoid using EEE switch (Energy Efficient Ethernet or “Green Ethernet”) because this can lead to poor synchronization performance and occasional dropouts.

AUDIO ROUTING ON THE DANTE NETWORK

Before you can start using Dante enabled devices, you must discover all devices, configure them and route the audio signals between the different devices. All this is done using the “Dante Controller” software, an application provided by Audinate and available for both Windows and MacOS. You can download the Dante Controller from this link:

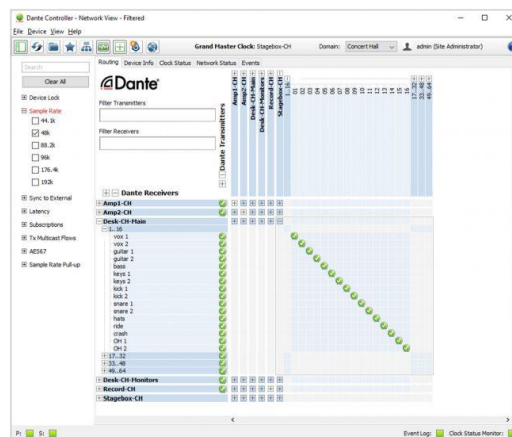
<https://www.audinate.com/products/software/dante-controller>.

Please note that you must create an account before you can download the software free of charge. For more information on how to use the Dante Controller, you can check this link:

<https://www.youtube.com/watch?v=xr1dJSwNZ9g>.

By pressing the F1 key, the software also offers a comprehensive help section.

As soon as you have completed all audio routing, you can start the webpage for further configuration: see next.



ACCESS THE WEBPAGE

FIND THE DEVICES ON THE LAN

The easiest way to find and open the DBT-04/-44 on a local network, without knowing the IP-addresses, is to use “SYNQ Network Discovery Tool”. This application can be downloaded by clicking one of the download links:



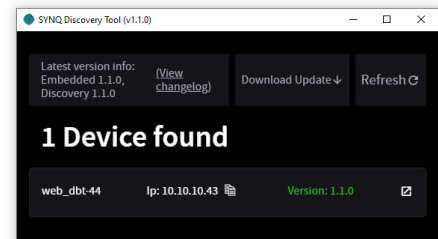
MS WINDOWS:

<https://www.microsoft.com/store/productId/9N351QFCKHQ9>

APPLE MAC OS:

<https://tinyurl.com/yckmv2fr>

- Install the application on your desktop computer
- Connect the DBT-04/-44 unit(s) on the same local network.
- Start the “Network Discovery Tool”, you will see an empty screen.
- Press the “**REFRESH**” button on the upper right side and wait. If no devices are found: wait 1 minute and **REFRESH** again.
- After a short time, all Synq devices will be listed (with their individual IP-addresses and mDNS names).
- When the firmware version is marked in **red color**: first upgrade the firmware (see later in this manual).
- Press the device you want to use: the web interface opens automatically.



WEBPAGE / WEB INTERFACE

Press the device name in the “Network Discovery Tool” to open the web interface:



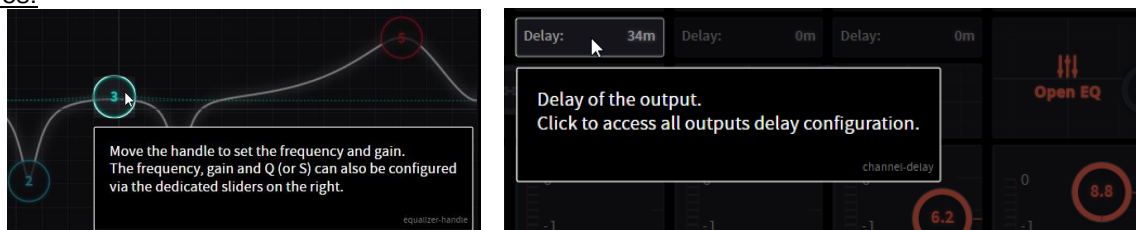
HELP FUNCTION

Discussing the various elements and features of the software in detail in this manual makes little sense. We know from years of experience that most users do not read the manual of a product or read it very superficially. (Isn't that right? 😊) ...

Therefore, we have provided the web interface with a handy help function that clarifies each function when you pass over it with the mouse cursor. We invite you to take a guided tour through the web-interface and explore the different possibilities.

In the interface, just **click on the question mark** at the top right to activate the help function. Then move the mouse cursor over the different parts to learn more about their functionality.

Examples:



Hint: if the webpage interface is running in a browser, equipped with a “Google Translate” plugin: just set the desired translation language and the complete interface will be translated:

Examples in French:





You can also check: <https://www.youtube.com/user/BeglecProductVideos/playlists>

In the section "Playlists" please look for "**Dante: Training Video**" (available in: French spoken or English spoken, with subtitles in the language of your choice)

OSC SUPPORT

Open Sound/System Control (OSC) was created as a successor to the MIDI control protocol. It enables advanced communication between computer software, sound synthesizers and other multimedia devices that support OSC.

The Synq DBT-04/44 and DBI-04/44 devices have OSC support. This means that they can be controlled by various OSC applications running on Tablets, Android smartphones, iPhones, desktop computers, ...

The good news is that there are platforms like TouchOSC and OSCPilot making it possible to easily make your own "customized" applications, without a lot of programming knowledge!

On the Synq website you can download our OSC-manual with all the instructions + information/weblinks to make your own applications. Check regularly for a new version with new features!

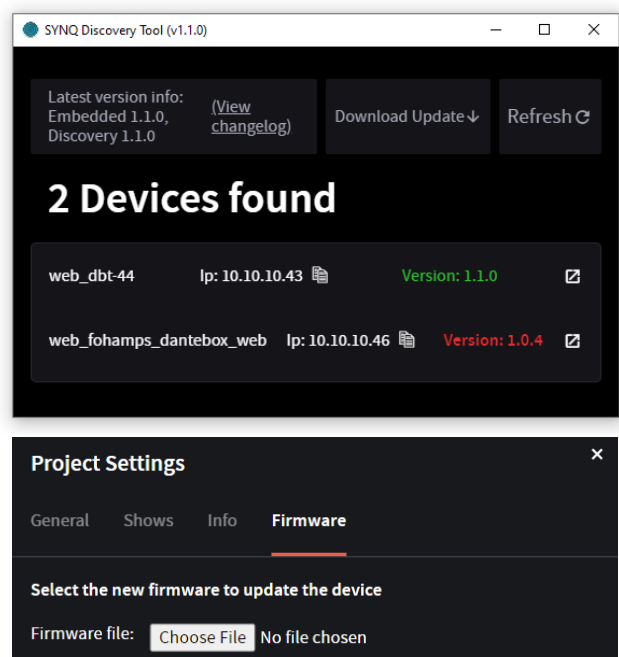
UPGRADING TO THE LATEST FIRMWARE

Make sure that you have the latest version of the "SYNQ Discovery Tool": from V1.1.0 this application detects automatically the latest firmware version of the detected devices:

- Devices with the latest firmware appear in green.
- Devices with old firmware appear in red, see picture.

To update the firmware, proceed as follows:

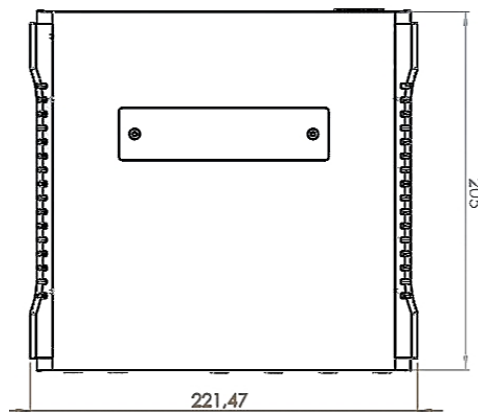
- Press the button "**View Changelog**" to see the new functions and bugfixes.
- Press "**Download Update** ↓" to download and save the latest firmware, named "**DanteBox.xfc**".
- Open the Webpage of the device that needs the update and press the "Cog wheel" button to open the settings and select the option "Firmware".
- Select the new "DanteBox.xfc"
- Press the button "Update" and wait until the progress bar is full.
- The LEDs on the device start flashing: wait until the device restarts and the web interface re-appears.
- Done!



SPECIFICATIONS

This unit is radio-interference suppressed. This appliance meets the requirements of the current European and national guidelines. Conformity has been established and the relevant statements and documents have been deposited by the manufacturer.

Power Supply:	DC 24V (0.5A max)
Power consumption:	12W
PoE (Power over Ethernet):	802.3af PoE-standard (57V / 0.35A maximum)
Frequency response:	20 – 20.000Hz (+/- 1dB)
Input signal/noise ratio:	117dB
Output signal/noise ratio:	120dB
THD+N:	<0.003% @ 1kHz, 0dB
A/D Resolution:	24 bits
Sampling frequency:	48 kHz
Max. input level:	max. +20dBu
Max. output level:	max. +20dBu (@ 0dBfs)
PAD:	-20dB
Ethernet connections:	2x Neutrik RJ45 Ethercon (Gigabit)
Size:	222 x 44 x 205 mm (19" / 1U)
Weight:	1.40 kg



All information in this document is subject to change without notice
You can download the latest version of this user guide from our website: www.synq-audio.com



MAILING LIST

EN: Subscribe today to our mailing list for the latest product news!

FR: Inscrivez-vous à notre liste de distribution si vous souhaitez suivre l'actualité de nos produits!

NL: Abonneer je vandaag nog op onze mailinglijst en ontvang ons laatste product nieuws!

DE: Abonnieren Sie unseren Newsletter und erhalten Sie aktuelle Produktinformationen!

ES: Suscríbete hoy a nuestra lista de correo para recibir las últimas noticias!

PT: Inscreva-se hoje na nossa mailing list para estar a par das últimas notícias!

WWW.SYNQ-AUDIO.COM

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