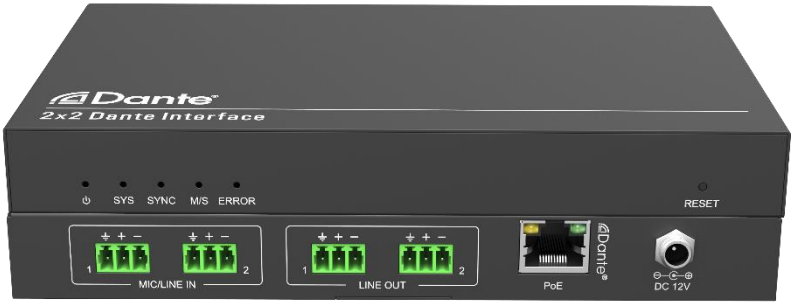
User Manual

DAMLD-2X2

Surface Mount 2x2 Dante/AES67 Interface



Version: DAMLD-2X2_2021V1.0

Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till June, 2021. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

FCC Statement

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. It has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.

SAFETY PRECAUTIONS

To ensure the best performance from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

About Dante/AES67

Dante/AES67 audio networking utilize standard IP networks to transmit high-quality, uncompressed audio with near-zero latency. It's the most economical, versatile, and easy-to-use audio networking solution, and is scalable from simple installations to large-capacity networks running thousands of audio channels. Dante/AES67 can replace multiple analog or multicore cables with a single affordable Ethernet cable to transmit high quality multi-channel audio safely and reliably. With Dante software, the network can be easily expanded and reconfigured with just a few mouse clicks. Dante/AES67 is the audio networking choice of nearly all professional audio manufacturers, with hundreds of Dante-enabled audio products now available.

For more information, please visit the Audinate website at *www.audinate.com*.

Table of Contents

1. Product Introduction

The DAN-B202 is a Dante network audio interface allowing users to integrate up to 2 x 2 audio channels of Dante audio into networked AV systems, each input features a 48V phantom power option. The product also supports PoE (IEEE802.3af) power capability and a small form factor that makes it easy to put Dante connectivity wherever it's needed and it can be close to the audio source or sink to eliminate the need for costly and interference-prone analog wiring.

1.1 Features

- 2 analog inputs and 2 analog outputs for line / microphone level.
- Supports adjusting the gain per input from 0 ~ +48dB.
- Output volume control from -60dB to 0dB.
- 48V phantom power per input channel.
- Powered by PoE (IEEE802.3af).
- Supports 44.1k or 48k audio sample rate.
- Controllable by Dante controller and web-UI.

1.2 Package List

- 1x DAN-B202
- 2x Mounting ears with 4 screws
- 1x User Manual

Note: *Please contact your distributor immediately if any damage or defect in the components is found.*

2. Specification

Input	
Input	(2) MIC/LINE IN
Input Connector	(2) 3-pin Green Terminal Blocks
Phantom Power	48V, software selectable for each input
Output	
Output	(2) LINE OUT
Output Connector	(2) 3-pin Green Terminal Blocks
Output Type	Balanced line level with automatic muting on loss of Dante signal
Audio Performance	
Gain	Input: 0 ~ +48dB, 6dB per step Output: -60 ~ 0dB, 1dB per step
Max Level	Input: +18dBu @ 0dB input gain Output: +18dBu @ 0dB output gain
Input Impendence	>1.8kΩ
Effective Input Noise (EIN)	-119dB @ 48dB gain
Output Noise	<-79dBu @ 0dB gain
THD	<0.05% at any gain
Sample Rate	44.1kHz or 48kHz
Control	
Control Port	(1) Dante Network
Control Connector	(1) RJ45
General	
External Power Supply	Input: AC 100~240V, 50/60Hz; Output: 12V DC 1A
Operation Temperature	-10℃ ~ +55℃

Storage Temperature	-25℃ ~ +70℃
Relative Humility	10%-90%
Dimension (W*H*D)	185mm x 115mm x 22mm
Net Weight	500g

3. Panel Description

3.1 Front Panel

① **POWER LED:** Illuminates green when power is applied.

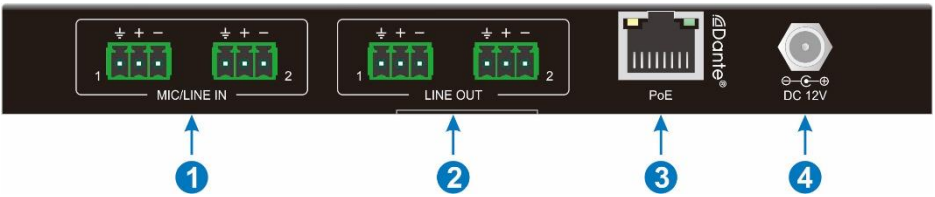
② **SYS LED:** Illuminates yellow when system starts, and green when system is ready.

③ **SYNC LED:** Illuminates green when the clocks are synchronized between master and slave devices, and yellow when the clocks are out of sync.

④ **M/S LED:** Illuminates yellow when the unit works as master device, and green when it is as slave master.

⑤ **ERROR LED:** Illuminates yellow when known errors occur, and red when unknown errors occur.

3.2 Rear Panel



① **MIC/LINE IN:** 2 x Balanced audio input.

② **LINE OUT:** 2 x Balanced audio output.

③ **Dante:** Dante® Ethernet interface connector.

④ **DC 12V:** DC connector for DC12V1A power adapter connection.

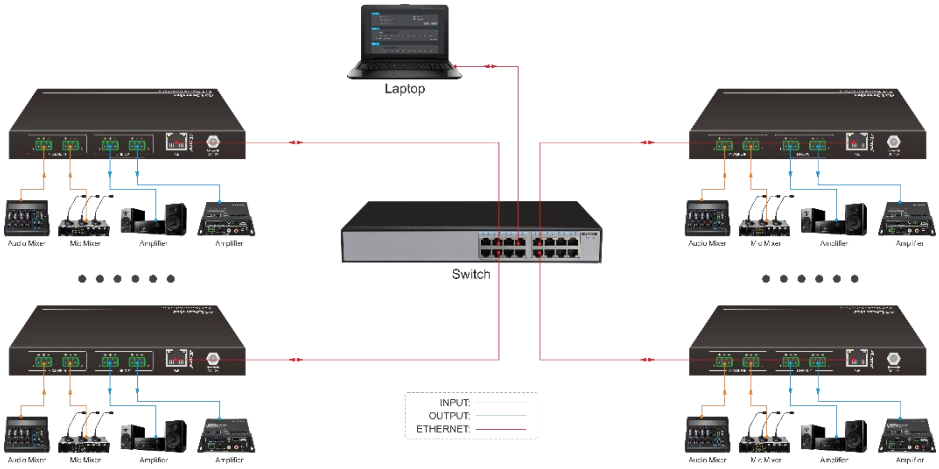
4. System Connection

4.1 Usage Precaution

- Make sure all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets, and power cords should be insulated and safe.
- All devices should be connected before power on.

4.2 System Diagram

The following diagram illustrates typical input and output connection that can be utilized with the converter:



5. Operation of Dante Controller

Dante Controller is a free software application that enables to route audio and configure devices on a Dante network. With automatic device discovery, one-click signal routing and user-editable device and channel labels, setting up a Dante network couldn't be easier. See the overview for more detail on Dante audio networking.

Dante Controller is much more than just a configuration and routing matrix. Dante Controller provides essential device status information and powerful real-time network monitoring, including device-level latency and clock stability status, multicast bandwidth usage, and customized event logging, enabling to quickly identify and resolve any potential network issues. It can also quickly and easily backup, restore, move, and reuse Dante network configurations using Presets, and edit Dante routing configurations offline.

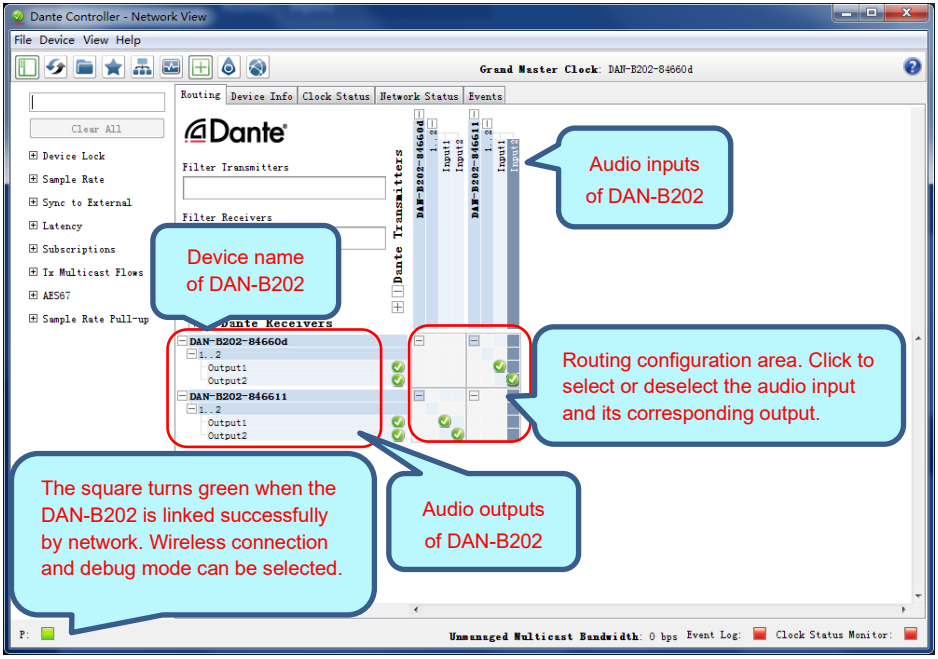
Dante Controller is available both for Windows and Mac OS X. It is open for registered *www.audinate.com* users to download directly from the website.

Dante Controller allows to:

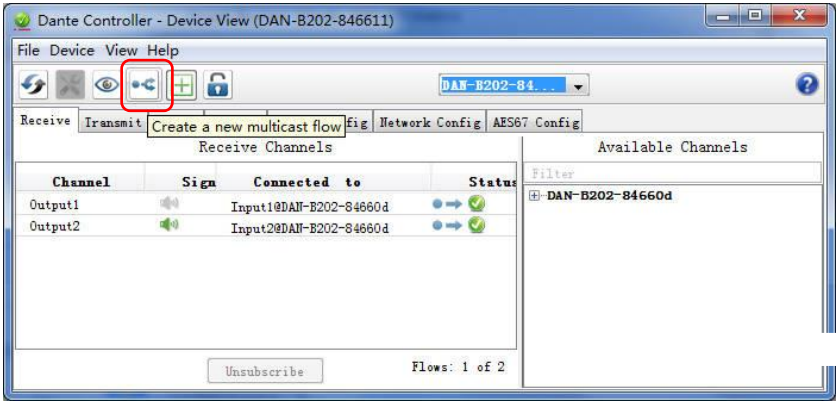
- View all Dante-enabled audio devices and their channels on the network
- View Dante-enabled device clock and network settings
- Route audio on these devices, and view the status of existing audio routes
- Connect to Dante Domain Manager and control enrolled devices
- Lock and unlock Dante devices
- Change the labels of audio channels from numbers to names
- Customize the receive latency (latency before play out)
- Save audio routing presets
- Apply previous saved presets
- Edit presets offline, and apply as configurations for new network deployments
- View and set per-device configuration options, including:
  - ✓ Change the device name
  - ✓ Change sample rate and clock settings
  - ✓ View detailed network information
  - ✓ Access the device web page to upgrade firmware and license information
- Identify a device for example by flashing LEDs
- View network status information, including:
  - ✓ Multicast bandwidth across the network
  - ✓ Transmit and receive bandwidth for each device

- View device performance information, including latency statistics and packet errors
- View clock status information for each device, including frequency offset history and clock event logs

Overview of Dante Controller:

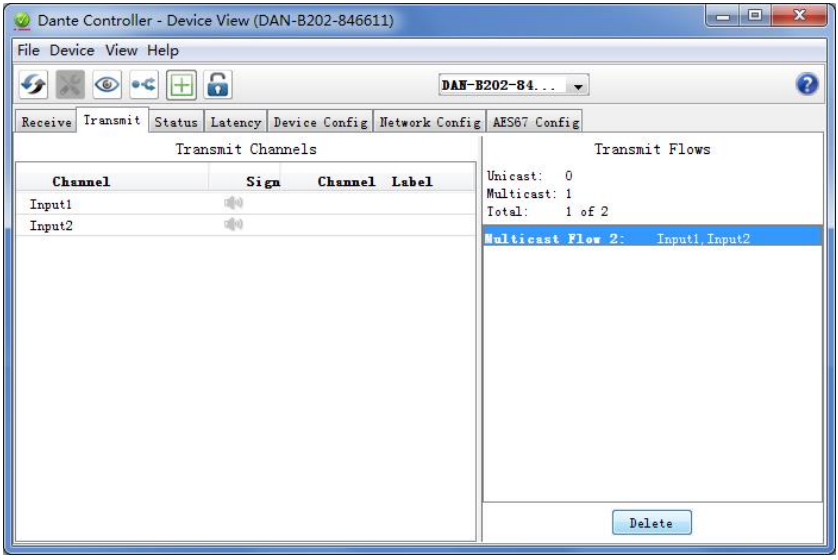


The default setting only supports 2 transmit and 2 receive flows, if more than 2 devices are needed, please click any device to enter **Device View** page.

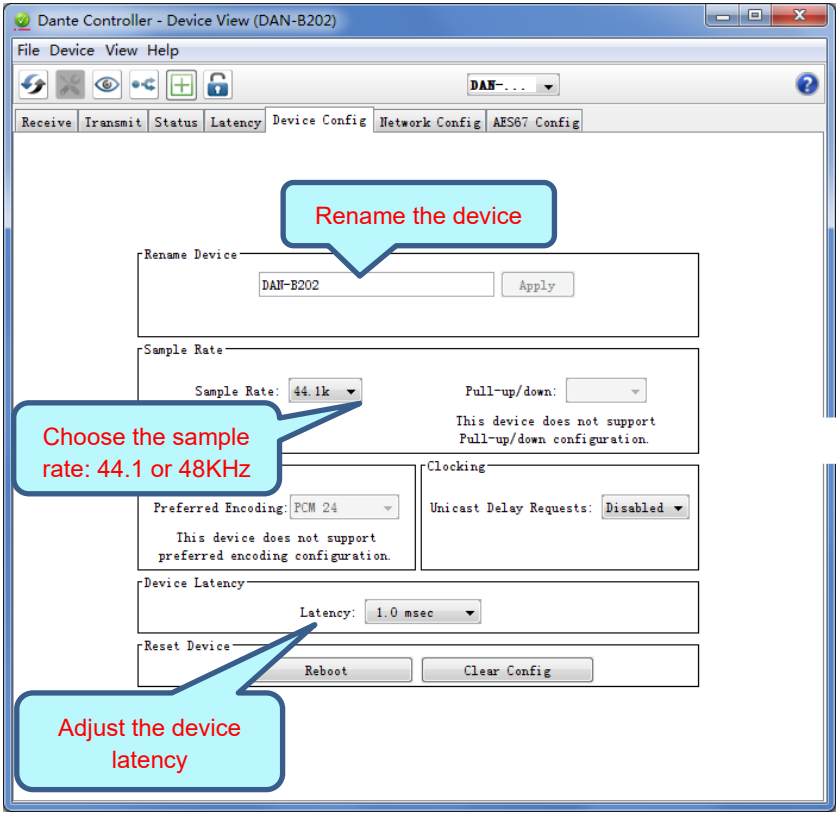


Select the device and tick the input channels.

Click Transmit and delete the transmit flows for disabling multicast mode as the below:



Click the device name, than turn into “Devic Config” page.



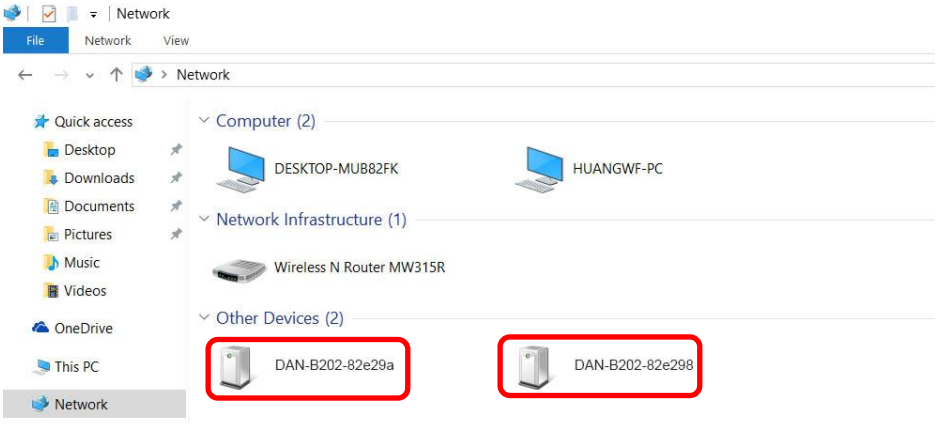
Note: *For more details about Dante Controller, please download the user guideline at the Audinate website: www.audinate.com.*

6. Operation of Web-UI

DAN-B202 can be controlled via web-based GUI. It allows users to interact with DAN-B202 through graphical icons and visual indicators.

1) When Dante device connects with the computer directly and don't change the default IP address, please type ***169.254.1.178*** in your browser to access Web-UI.

2) If Dante device is assigned IP address by router, please find the device in Network page of the computer, then click the device to access Web-UI.



It will enter the log-in interface shown as below:

The default user name is "admin" and password is "admin".

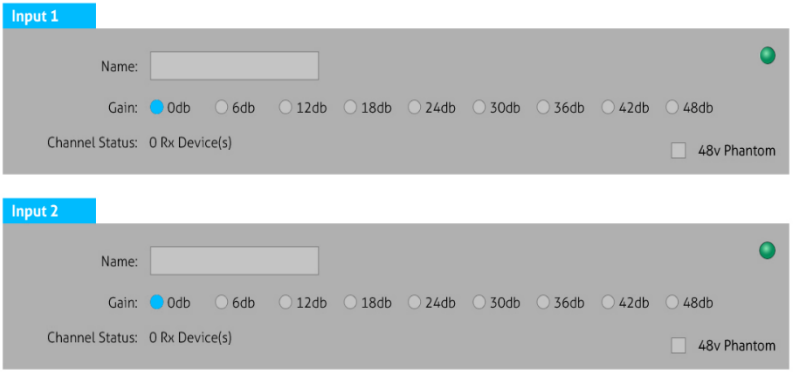
6.1 Device Info

In this page, it shows the model name, device name, IP address and MAC address.

Dante Lock: Reports the status if Dante device is locked in Dante Controller.

Parameter Lock: If the user clicks it, the parameter of the device can't be adjusted like input's gain or output's volume.

6.2 Input Configuration



Name: Reports the Dante transmitter channel name for corresponding analog input and rename the input.

Gain: Allows the user to adjust the input's gain from 0db to 48db

Channel Status: Reports the number of active Dante receiver devices for Dante transmitter device.

6.3 Output Configuration

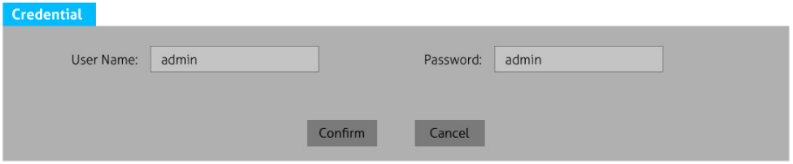
Name: Reports the Dante receiver channel name for corresponding analog output and rename the output.

Volume: Allows the user to adjust the output's volume form -60db to 0db.

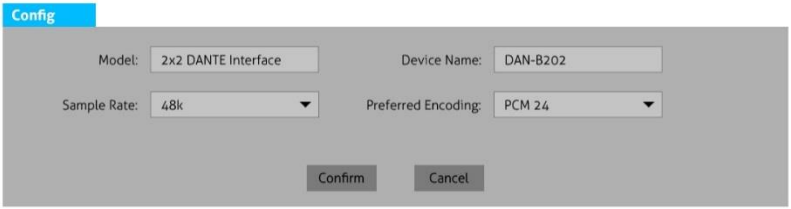
Assigned RX Channel: Reports the corresponding transmitter channel.

6.4 Credential Configuration

In this page, the user can change the user name and password.



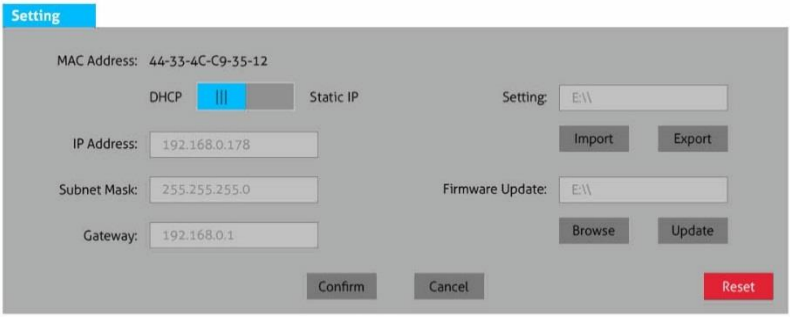
6.5 Config



In this page, it's supported the model and device name modification, sample rate (44.1K, 48K and 96KHz) and encoding audio format (PCM 16, PCM 24 and PCM 32) selection.

6.6 Setting

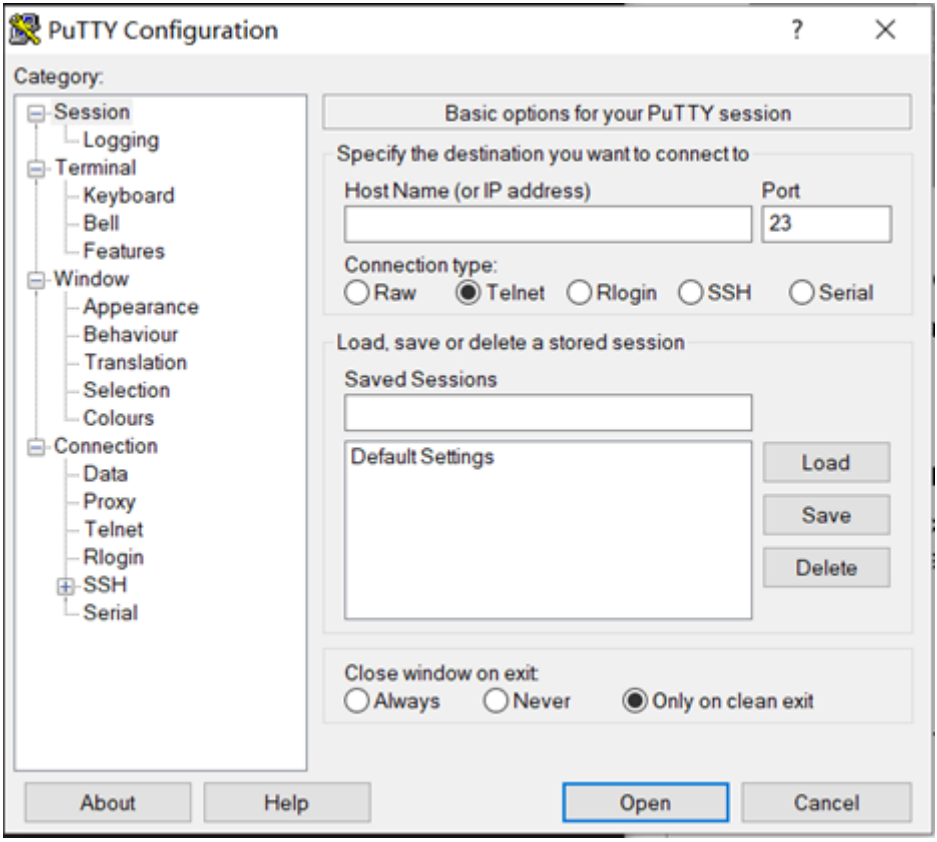
In this page, the user can configure network settings including MAC address, IP address, subnet mask, and Gateway. It can also support importing or exporting the setting.



2x2 DANTE Interface

7. API Commands

The Dante device can be controlled by telnet. Take Putty here as an example.



Firstly, type in the IP address of GUI in “Host Name” and the port is 4001, chose Telnet connection type, then click the open, and a new window will pop up. Then the user can send commands to control the Dante device.

Commands List

Command	Function	Example and Feedback
livol,port:x	Set the gain of input. Port=1,2 means input 1 or input 2 x=0,1,2,3…8 6dB step	livol,1:3 ok/error
getlivol:port	Query gain of input. Port=1,2 means input 1 or input 2	getlivol:1 ligain,1:3 18dB
phantom,port:on/off	Power on/off of phantom power.	phantom,1:on ok/error
getphantom:port	Query status of phantom power.	getPhantom:1 phantom,1:on
lovol,port:x	Set the gain of output. Port=1,2 means output 1 or output 2 x=0,1,2,3…100	lovol,2:80 ok/error
getlovol:port	Query the gain of output. Port=1,2 means output 1 or output 2	getlovol:2 lovol,2:80
mute:port	Mute the output. Port=1,2 means output 1 or output 2	mute:1 ok/error
unmute:port	Unmute the output. Port=1,2 means output 1 or output 2	unmute:1 ok/error
getmute:port	Query status of mute. Port=1,2 means output 1 or output 2	getmute:1 mute,1:off
parameterlockon	Lock the parameter.	ok/error
parameterlockoff	Unlock the parameter.	ok/error
identifyon	Turn on the function to be identified.	ok/error
identifyoff	Turn off the function to be identified.	ok/error
locate	Locate the unit, turn on the function to be identified. The LEDs on front panel will twinkle, and continue until identifyoff is sent.	ok/error

savepresetaudio	Save the current setting (input gain, output volume, phantom power status, mute status) to preset.	ok/error
loadpresetaudio	Use the saved preset.	ok/error
reset	Factory reset the unit.	ok/error
getaudiolevels	Query the status of the audio.	ligain,1:4 24dB ligain,2:4 24dB lovol,1:40 lovol,2:40
getsettings	Query the settings of audio.	ligain,1:4 24dB ligain,2:4 24dB phantom,1:on phantom,2:on lovol,1:40 lovol,2:40 mute,1:off mute,2:off
getdeviceinfo	Query the status of the unit. Model, name, version, Mac address.	Model:2x2 Dante Interface Name:DAN-B202-C93512 MAC:44-33-4C-C9-35-12 Dante Version:4.2.2 GUI Version:1.0.0 Firmware Version:1.0.0
getdantelock	Query the lock status of the unit.	DanteLock:unlock
getsignals	Query the status of the audio. (Invalid signal/Signal clipping/Valid signal /No signal)	Input1:Nosignal Input2:No signal Output1:Valid signal Output2:Valid signal
getchannellabel	Query the label of channel.	Input1 TX1 Input2 TX2 Output1 RX1 Output2 RX2
aes67on	Enable AES67	ok/error
aes67off	Disable AES67	ok/error

reboot	Reboot the device	ok/error
getstatus	Query all the status.	ligain,1:0 0dB ligain,2:0 0dB phantom,1:off phantom,2:off lovol,1:50 lovol,2:50 mute,1:off mute,2:off Input1 TX1 Input2 TX2 Output1 RX1 Output2 RX2 DanteLock:unlock parameterLock:off

8. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. There terms and conditions may be changed without prior notice.

1) Warranty

The limited warranty period of the product is fixed three years.

2) Scope

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

3) Warranty Exclusion

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
  - ✓ Normal wear and tear.
  - ✓ Use of supplies or parts not meeting our specifications.
  - ✓ No certificate or invoice as the proof of warranty.
  - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
  - ✓ Damage caused by force majeure.
  - ✓ Servicing not authorized by distributor.
  - ✓ Any other causes which does not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

4) Documentation:

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

Remarks: Please contact your local distributor for further assistance or solutions.