DBS1

User Manual

Version 1.3

2016-03-31

This manual can be downloaded from

www.fouraudio.com/en/products/dbs1.html

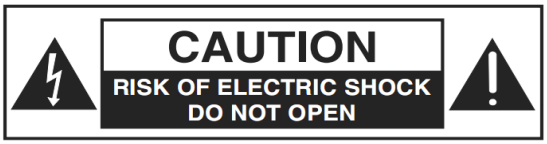
Content

1. Important Safety Information

This device has been manufactured and tested with your safety in mind. However, improper use can result in potential electric shock or fire hazards.

To avoid defeating the safeguards that have been built into the device, please observe the precautions discussed in this document.

Warnings on the external power supply



The lightning flash with arrowhead symbol, within a triangle, is intended to alert you to the presence of uninsulated “dangerous” voltages within your device’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within a triangle is intended to alert you to the presence of important instructions in the literature accompanying the device.

Other warnings

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER OF THE DEVICE.

THERE ARE NO USER-SERVICEABLE PARTS INSIDE IT.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE.

DO NOT PERFORM ANY SERVICING UNLESS YOU ARE QUALIFIED TO DO SO BY FOUR AUDIO.

REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

SERVICING THE DEVICE YOURSELF WILL INVALIDATE THE WARRANTY.

Ventilation

Slots and openings in the casing of the device are provided for ventilation, to ensure reliable operation of the device and to protect it from overheating.

Never block the ventilation openings by placing the device on a bed, sofa, rug or other similar surface;

Never cover the ventilation openings with items such as newspapers, cloths etc.

Do not place the device in a built-in installation such as a bookcase or rack unless proper ventilation is provided or you have adhered to the manufacturer’s instructions.

Water and moisture

Do not expose this device to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the device

Disposal

When the end-of-life of your device is reached, do not dispose this device in the household waste. This protects our environment and saves raw materials. Return it to your distributor who will dispose it free of charge for you.

KEEP THIS INFORMATION FOR FUTURE REFERENCE

2. EC Declaration of Conformity

An example of this equipment has been tested and found to comply with the following European and international Standards for Electromagnetic Compatibility and Electrical Safety:

Radiated Emission (EU):	EN55103-1 (1996)
RF Immunity (EU):	EN55103-2 (1996)
Electrical Safety (EU):	EN60065 (1993)

Manufacturer's Name & Address

Four Audio GmbH & Co. KG

Konrad-Zuse-Str. 4

52134 Herzogenrath

Germany

Product Name

DBS1

Aachen, Oct-31-2013

Rainer Thaden

3. Package contents

- ✓ 1x DBS1 Dante® Audio Interface
- ✓ 1x power supply: Meanwell GS15A-1P1J (Input 90-264 V AC, Output 5 V DC / 2,4 A)
- ✓ 1x Power cord (IEC-60320 C13, Type F CEE 7/4)
- ✓ 2x Mounting brackets (see chapter 8)
- ✓ 4x Adhesive feet

4. Product Specifications

The DBS1 is a two channel analog in / analog out Dante® interface. It is based on Audinate's Ultimo Dante® chip which is the entry-level Dante interface. For devices with network redundancy, please check www.fouraudio.com for our DBO devices which are based on Audinate's Brooklyn module.

4.1. Connectors

Analog Inputs	2 balanced XLR
Analog Outputs	2 balanced XLR
Ethernet	1 RJ-45 with Power over Ethernet, 100 MBit
Power	5V DC/2.4A

4.2. Audio Performance

Sampling rate	48 kHz / 96 kHz
Resolution	24 bit
Max. Input Level	-45 dBu - +30 dBu
Max. Output Level	-48 dBu - +15 dBu
Dynamic Range AD	115dB(A) 112 dB(lin)
Dynamic Range DA	117dB(A) 114 dB(lin)
Equivalent Input Sensitivity	-123 dBu
THD @ +15 dBu output level	-105 dB

4.3. Dimensions and weight

Width / Height / Depth	195 x 39 x 125 mm
Weight only DBS / packed with PSU	730 g / 1330 g

5. DBS1 Inputs/ Outputs

The DBS1 provides 2 balanced analog inputs and 2 balanced analog outputs for audio.

5.1. Analog Inputs

The analog inputs provide a dynamic range of 115 dB(A) with a maximum input voltage of 30 dBu.

Following functions are available:

Sensitivity	+30 / +21 / .. / +3 / 0 / -3 /.. -42 / -45 dBu	3 dB steps
48 V Phantom Power	On / **Off**	
70 Hz / 1st order low cut filter	On / **Off**	

(**Bold** values are factory default)

The two input channels will appear as Channel 1 and 2 of the DBS1 device in the Dante® Controller Software.

5.2. Analog Outputs

The analog outputs provide a dynamic range of 114dB(A) with a maximum output voltage of 15 dBu.

Following functions are available:

Sensitiviy	-48 dBu .. **15 dBu** in 3 dB steps
Phase Invert	**0°** / 180°
Mute	On / **Off**

Both output channels will appear as Channel 1 and 2 of the DBS1 device in the Dante® Controller software.

5.3. Ethernet connector

The DBS1 has one RJ-45 Ethernet connector to connect the unit to a Dante® Primary network. For information about how to set-up a Dante® network please check Audinate's help site and the famous Dante FAQ https://www.audinate.com/resources/faqs

5.4. Power Supply jack

Use the supplied 5 V desktop power supply or Power over Ethernet (PoE).

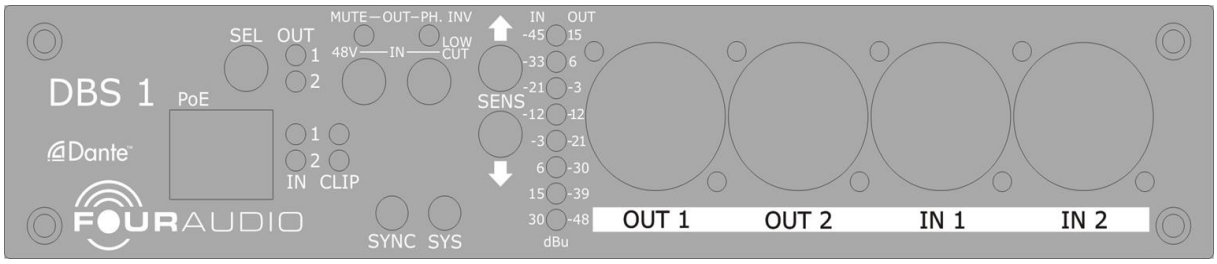
The external power supply and PoE can be used simultaneously to achieve redundancy.

The metal bracket on the rear provides a pull relief.

6. Usage

The DBS1 was designed as a hassle-free plug-and-play device. This chapter describes all buttons and LEDs to ensure you'll get the most out of your Dante® Breakout box.

On the Front panel you'll find all controls and LEDs which are explained below. The function of some elements can change depending on whether an input or an output is selected.



6.1. LEDs

	Function / Meaning	
OUT 1	Output 1 selected	
Out 2	Output 2 selected	
In 1	Input 1 selected	
In 2	Input 2 selected	
CLIP 1	Input 1 clipping	
CLIP 2	Input 2 clipping	
MUTE / 48V	Output: Mute On *	Input: Phantom Power On *
PH.INV / LOW CUT	Output: Phase Invert On *	Input: Low Cut On *
SYNC	see table below	
SYS	see table below	
LINK	Ethernet connection established	
ACT	blinks on network activity	
SENS (8 LEDs)	see table below	

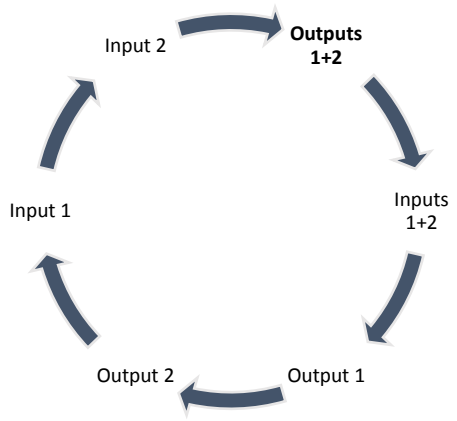
* The LEDs MUTE/48V and PH.INV/LOW CUT show the state of this function for the selected channels.

6.2. Push Buttons

	Function / Meaning	
SEL	Selection of Input / Output see table below	
MUTE / 48V	Output: Mute on / off	Input: toggle Phantom power on / off
PH.INV / LOW CUT	Output: Phase inversion on / off	Input: Low Cut on / off
UP	Input: increase sensitivity	Output: increase output level
DOWN	Input: decrease sensitivity	Output: decrease output level

6.3. Channel selection

To select the active channel use the **SEL button**. With each press of a button the DBS steps through six states of channel selection as shown on the right. The yellow channel LEDs show the active selection.



All changes made using the remaining four functional buttons (page 12) are applied to those channels whose LED is lit.

The function of each key changes depending on whether an input or an output is selected. See explanations in the next chapters.

Hint: If two channels are selected the LEDs are showing settings of channel 1 only! There is no indication if Ch. 2 has different settings to Ch. 1! Parameter changes are relative to the current setting of channel 1 and copied to channel 2. Keep this in mind when different source signals like a microphone and a line signal are connected.

6.4. Sensitivity

The front panel provides 8 LEDs which indicate the current input **or** output gain. As there are more than 8 steps in gain these “fine steps” are shown as a combination of two LEDs. The tables below show the gain settings.

Info: Bold values are factory default

To change the sensitivity of a channel follow these steps:

1. Make sure the correct channel is selected. Push the SEL button until the desired channel LEDs are lit
2. Use the SENS buttons to change the output or input sensitivity according to Table 1 or Table 2

At the rear panel you’ll find a summary of both tables:

The **output sensitivity** indicates which analogue signal level (in Volts or dBu) is to be expected at the maximum digital signal level (fullscale, FS) over Dante®.

The input sensitivity indicates which analogue signal level (in Volts or dBu) can be applied before the digital maximum level (fullscale) is reached. Never exceed this level because this will lead to distortions!

Table 1 output sensitivities

Step	*LEDs lit*	*Fullscale Output level [dBu]*	*V_{eff}*	*V_{peak}*
1	***15***	***15***	***4,36 V***	***6,16 V***
2	*6 & 15*	*12*	*3,08 V*	*4,36 V*
3	*6 & 15*	*9*	*2,18 V*	*3,09 V*
4	*6*	*6*	*1,55 V*	*2,19 V*
5	*-3 & 6*	*3*	*1,09 V*	*1,55 V*
6	*-3 & 6*	*0*	*775 mV*	*1,10 V*
7	*-3*	*-3*	*548 mV*	*776 mV*
8	*-12 & -3*	*-6*	*388 mV*	*549 mV*
9	*-12 & -3*	*-9*	*275 mV*	*389 mV*
10	*-12*	*-12*	*195 mV*	*275 mV*
11	*-21 & -12*	*-15*	*138 mV*	*195 mV*
12	*-21 & -12*	*-18*	*97,5 mV*	*138 mV*
13	*-21*	*-21*	*69,0 mV*	*97,6 mV*
14	*-33 & -21*	*-24*	*48,9 mV*	*69,1 mV*
15	*-33 & -21*	*-27*	*34,6 mV*	*48,9 mV*
16	*-30*	*-30*	*24,5 mV*	*34,6 mV*
17	*-33 & -36*	*-33*	*17,3 mV*	*24,5 mV*
18	*-33 & -36*	*-36*	*12,3 mV*	*17,4 mV*
19	*-39*	*-39*	*8,69 mV*	*12,3 mV*
20	*-39 & -48*	*-42*	*6,15 mV*	*8,70 mV*
21	*-39 & -48*	*-45*	*4,36 mV*	*6,16 mV*
22	*-48*	*-48*	*3,08 mV*	*4,36 mV*

Table 2 input sensitivities

Step	*LEDs lit*	*Input Sensitivity [dBu]*	V_{eff}	V_{peak}
1	-45	-45	4,36 mV	6,16 mV
2	-45 & -33	-42	6,15 mV	8,70 mV
3	-45 & -33	-39	8,69 mV	12,3 mV
4	-45 & -33	-36	12,3 mV	17,4 mV
5	-33	-33	17,3 mV	24,5 mV
6	-33 & -21	-30	24,5 mV	34,6 mV
7	-33 & -21	-27	34,6 mV	48,9 mV
8	-33 & -21	-24	48,9 mV	69,1 mV
9	-21	-21	69,0 mV	97,6 mV
10	-21 & -12	-18	97,5 mV	138 mV
11	-21 & -12	-15	138 mV	195 mV
12	-12	-12	195 mV	275 mV
13	-12 & -3	-9	275 mV	389 mV
14	-12 & -3	-6	388 mV	549 mV
15	-3	-3	548 mV	776 mV
16	-3 & 6	0	775 mV	1,10 V
17	-3 & 6	3	1,09 V	1,55 V
18	6	6	1,55 V	2,19 V
19	6 & 15	9	2,18 V	3,09 V
20	6 & 15	12	3,08 V	4,36 V
21	**15**	**15**	**4,36 V**	**6,16 V**
22	15 & 30	18	6,15 V	8,70 V
23	15 & 30	21	8,69 V	12,3 V
24	30	30	24,5 V	34,6 V

6.5. Function switches

The two function buttons MUTE/48V and PH.INV/LOW CUT have different functions depending on whether an input or an output was selected:

switch	*In-/out*	*function*
MUTE/48V	***OUTPUT***	toggles **mute** ON and OFF
PH.INV/LOW CUT	***OUTPUT***	toggles **phase inversion** ON and OFF
MUTE/48V	***INPUT***	toggles 48V **phantom power** ON and OFF
PH.INV/LOW CUT	***INPUT***	toggles the analogue **low cut** filter ON and OFF

6.6. Dante® status

The status of the Dante® interface is displayed with LEDs SYNC and SYS as shown in table below.

Color	*Description*
SYS red	System booting
SYS green	System ready
SYNC amber	PTP currently syncing
SYNC red	PTP error / no PTP sync / PTP disabled
SYNC green	PTP slave, with PTP sync
SYNC green flashing	PTP master
SYS & SYNC flashing green	Identify
SYS & SYNC flashing amber	Firmware upgrade in progress
SYS & SYNC flashing red	Failsafe – corrupt or missing application image

Note: *PTP = Precision Time Protocol (One device in the Dante® audio network is the Dante® clock master. All other devices are Dante® clock slaves synchronized by PTP.)*

6.7. Remote Control

All functions of the DBS1 can be remote controlled by the Four Audio DBS1 software. Please check at http://fouraudio.com/en/downloads.html

6.8. Dante® settings

All Dante® features are configured and monitored in *Dante® Controller* which is the software application provided by Audinate, the inventor of Dante®. *Dante® Controller* and its user manual can be downloaded from Audinate's homepage. Make sure to use latest version of Dante® Controller which is 3.6 or later.

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

If you are not familiar to the Dante® Audio network we strictly recommend to read the user manual of the *Dante® Controller* software first and check the FAQ.

https://www.audinate.com/resources/faqs

7. Network Setup

A Dante®- device that is connected to a network will **automatically** set up its network configuration including IP address settings.

On a network *with DHCP server*, which may be the case for installed networks, the DBS1 will receive an IP address using the standard **DHCP** protocol.

On a network *without DHCP server*, which may be the case for temporary or smaller networks, the Dante®-device will automatically assign itself an address using **link local** protocols, in the same way PCs and printers often do.

If you *directly connect* the DBS1 to your computer, both devices will automatically negotiate their IP addresses using link local protocol. Alternatively, you can run a DHCP service on your computer to assign an IP address to the DBS1 and to your computer.

Please also check the official Dante® Controller User Guide at
http://dev.audinate.com/GA/dante-controller/userguide/pdf/latest/

Once the DBS1 is correctly integrated in your network, you can change its IP settings in the Dante® controller software.

8. Mounting options

There are several possibilities to put the DBS1 to where you want it to be:

- ✓ For free-standing on your desk use the supplies adhesive feet
- ✓ On the bottom, you'll find four holes which can be used to screw the DBS1 to a rack tray. Use 3 mm screws which are no longer than 5 mm.
- ✓ The brackets supplied with the unit can be mounted in two positions for rack mounting and surface mounting. Attach the brackets using three screws on each side as shown on the pictures
- ✓ Use the coupler to mount two units in a 19" rack.

1. 195 mm width rack mount[1]

2. Mounting on flat surface

3. Two devices in one 19" 1 RU

[1] Please note that the DBS1 was designed to have dimensions as small as possible. Thus its height is lower than 1 RU and its width smaller than 9,5"

9. Firmware Update

To update the DBS1 firmware, follow the instructions below. Please make sure you have a reliable power supply and network connection.

The DBS1 contains two central chips: The Dante® Ultimo chip and a controller chip by Four Audio. Therefore, the update requires multiple steps. The first step is a preparatory update for the Ultimo chip. Then, update the DBS1 controller chip and finally install the latest Ultimo firmware.

To update the Dante® Ultimo firmware, third party software from Audinate has to be used.

> ⚠ Please follow exactly the steps described here. Do NOT just update the Dante® Ultimo firmware without also updating the Four Audio firmware, as this will lead to malfunction.

9.1. DBS1 Software and firmware

Download and install the latest **DBS1 Software** from http://four-audio.com/en/downloads.html.

Download the latest set of firmware files http://four-audio.com/data/latest_dbs_firmware.php and unzip it:

- ✓ **DBS1_ult-preparatory.dnt** (preparatory firmware for Dante® Ultimo chip)
- ✓ **DBS1_*<version>*.fwu** (firmware for Four Audio Controller chip)
- ✓ **DBS1_ult-*<version>*.dnt** (firmware for Dante® Ultimo chip)
- ✓ **README.txt** (update instructions)

9.2. Dante® Firmware Update Manager

Download and install the latest **Dante® Firmware Update Manager** (v.1.4.16.6 or later) from Audinate.

https://www.audinate.com/products/firmware-update-manager

9.3. Dante® Controller

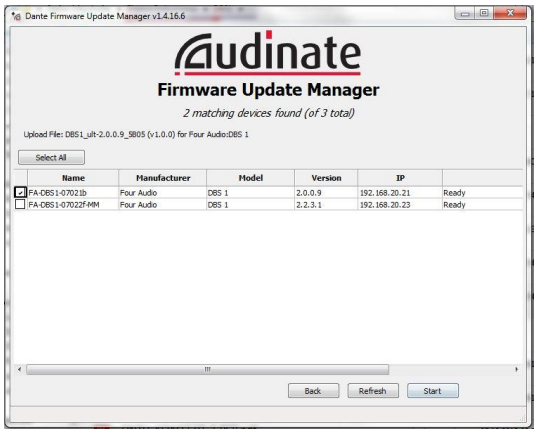
Download and install the Dante® Controller.
You'll find it under https://www.audinate.com/products/software/dante-controller

> ⚠ It is strictly recommended to disconnect audio output or turn off connected devices during the update procedure because loud click noise can occur!

9.4. Performing the preparatory Ultimo update for old Dante Software versions

Because of major changes in the Ultimo and Four Audio Controller firmware, a preparatory Ultimo firmware update is required if the Ultimo firmware is lower than 2.2.3.1.

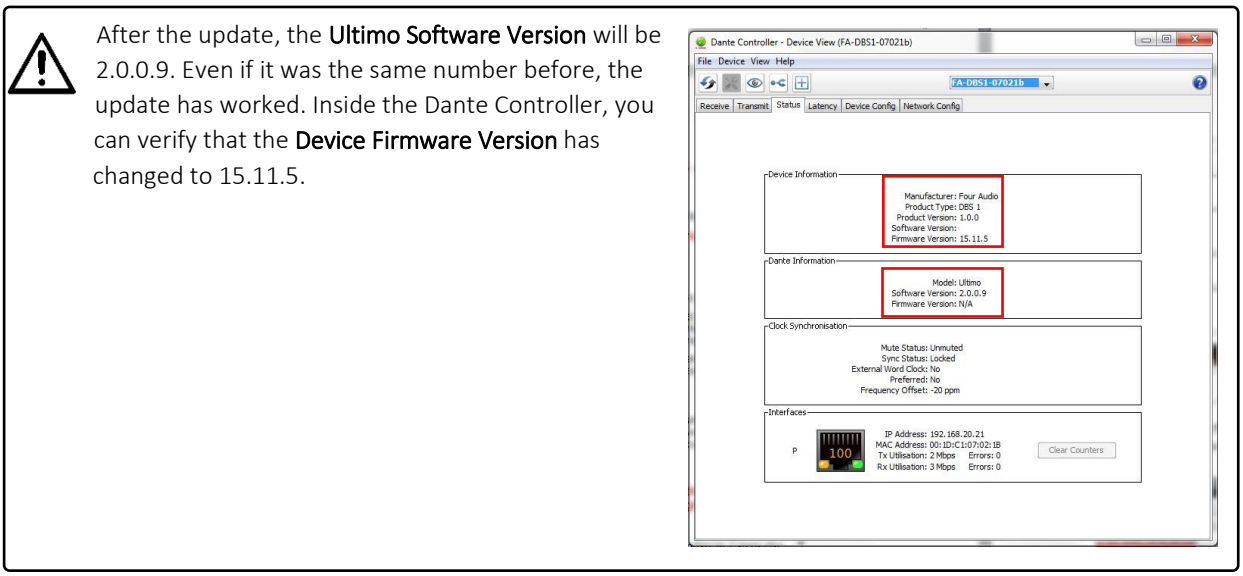
Open the Dante® Firmware Update Manager, select your network, and then choose *Update Dante Firmware.* Load the **DBS1_ult-preparatory.dnt** firmware file. The Update Manager will scan for your DBS1 devices.



If the displayed Ultimo Software Version of your device is lower than 2.2.3.1, you need the preparatory update (otherwise go to 9.5 directly).

Select the device and click *Start* in order to upgrade to the preparatory Ultimo software.

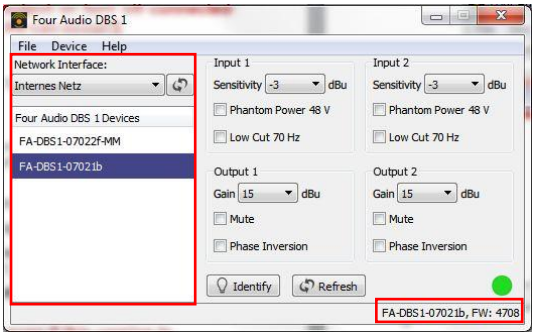
Restart the DBS1.



After the update, the **Ultimo Software Version** will be 2.0.0.9. Even if it was the same number before, the update has worked. Inside the Dante Controller, you can verify that the **Device Firmware Version** has changed to 15.11.5.

9.5. DBS1 controller firmware update

Start the Four Audio DBS1 software. If you have several network cards installed in your computer, choose the correct network interface. In the list displaying the DBS1 units found in the network select the device that is to be updated.



The status bar shows the version of the Four Audio Controller Firmware.

Now go to *Device* => *Firmware Update* browse to **DBS1_*<version>*.fwu**. *Open* starts the firmware update. During the update process, you can hear relays clicking inside the DBS1.

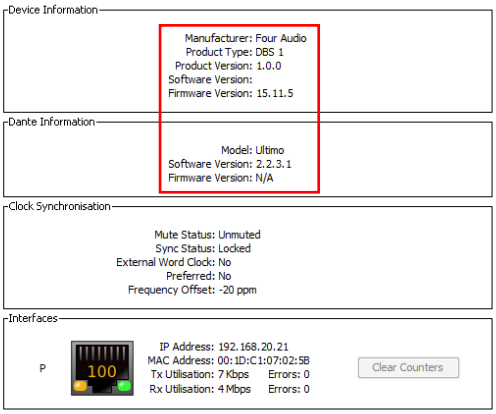
After closing the Update dialog and pressing 'Refresh' the status bar shows the new firmware version.

9.6. Final Ultimo Update

Update the Ultimo chip with Dante® Firmware Update Manager to version **DBS1_ult-*<version>*.dnt**.

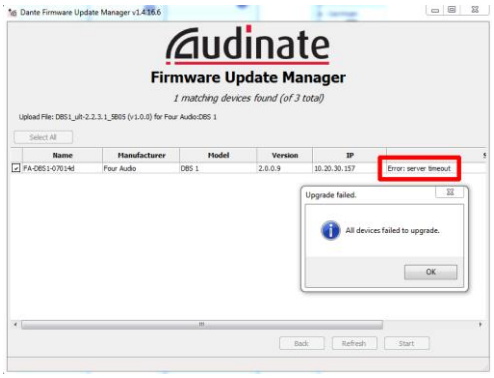
Congratulations, your DBS1 is up-to-date now.

In Dante® Controller you should find your device with the latest Firmware versions now:



10. Troubleshooting and FAQ

10.1. Dante® firmware update fails



If the Dante® firmware update failed, the Dante® Firmware Update Manager reports an error message like shown on the right and the SYNC and SYS LEDs of DBS1 are flashing red. The Dante® Controller reports that the device has entered failsafe mode.

To solve this issue, the DBS1 needs a static IP address for the firmware update even if it is running in a network with DHCP server or local link configuration.

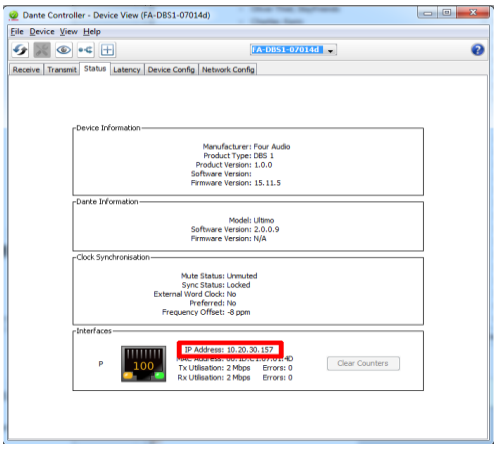
Follow these steps:

1. Power cycle the DBS1. It will start with the previous firmware.
2. Choose two IP addresses within the same subnet.
3. Connect the DBS1 directly to the network socket of the computer.
4. In Dante® Controller set the IP of the DBS1 to one of those addresses and press ‘Apply’.
5. Set the IP of the computer to the other IP address as chosen above.
6. Perform the upgrade again
7. **Restore** the original **network settings** on the DBS1 and the computer

Hint: To simplify step 2 to 5, you can temporarily assign the same IP address to the DBS1 that it had been given by the DCHP server before and leave it on the network. Restore settings after the update.

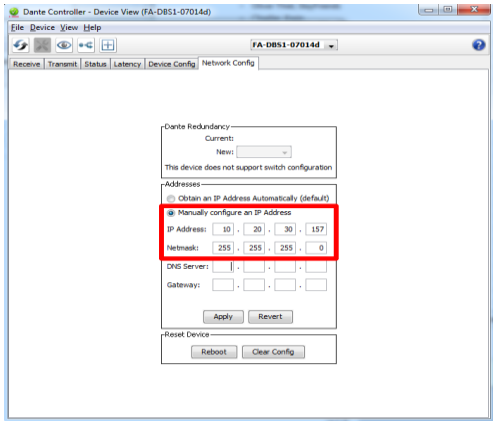
How do I read the current IP address of my DBS1?

Open Dante® Controller and read the current IP address from *Device view => Status*.



How do I change the IP settings of my DBS1?

Open Dante® Controller and go to the *Network Config* Tab in the *Device view*



I have upgraded the chips in the wrong order and the DBS1 does not appear in DBS1 software

Flash the firmware **DBS1_ult-2.0.0.9_5B05.dnt** with Dante® Firmware Update Manager to the Dante® Ultimo chip and start the upgrade procedure again.

The firmware upgrade for the Four Audio controller chip does not finish

It may happen that the Ultimo chip stops to communicate with the Four Audio controller chip. In that case turn the DBS1 off and on and start the upgrade of the Four Audio chip again.

Firmware upgrade was interrupted e.g. by loss of power or network failure

If the upgrade of the Four Audio controller was interrupted, just repeat the procedure after restarting the unit. The unit always starts with the old firmware until the upgrade was successful.

In case the Dante® Ultimo chip update fails, see **Using Failsafe Recovery** in the User Manual of Dante® Firmware Update Manager.

Other problems

See Troubleshooting in the User Manual of Dante® Firmware Update Manager
http://dev.audinate.com/GA/firmware-update-manager/userguide/latest/

10.2.Network Troubleshooting

When do I expect to have network problems?

If one or several of the following symptoms occur, we recommend checking the network configuration:

- Dante® Controller shows orange “unsuccessful subscription” icons, which usually means that a device that was present earlier is now missing
- Intermittent faults, which may be heard as dropped samples or “cracks” in the audio signal
- Dante® devices appear and disappear in Dante® Controller
- Items in the “Device View” of the Dante® Controller are greyed out

What are possible causes for network problems?

One or several of the following items can cause connection problems:

- Unplugged /badly connected or faulty Ethernet cables
- Misconfigured switches
- Network cables not suitable or damaged (use at least 100 Mbit CAT5 cables)
- Dante® devices removed or turned off
- Symptoms of switch or cabling issues
- IP address conflicts or configuration issues (e.g. static IP set)

How can I fix network issues?

Go through the switch and cabling checklist

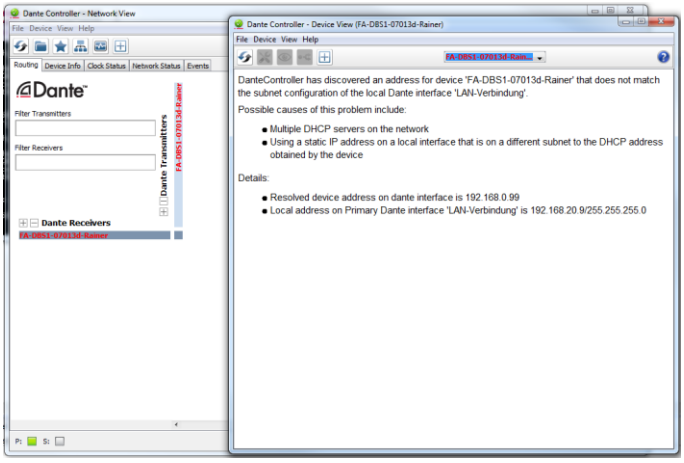
- ✓ Are all the connected link/status lights on the switch lit or flashing as expected?
- ✓ Are all switches powered on and show no error?
- ✓ Is the cable plugged in correctly at the switch and the PC or equipment?
- ✓ Is the switch configured correctly?
- ✓ Perhaps QoS or VLANs have been set up incorrectly
- ✓ Are you using a switch from another application with an unchecked or untested configuration?
- ✓ Is there a DHCP server present in the network?
- ✓ If a DHCP is used check that “obtain IP address automatically” is activated
- ✓ Do other devices receive an IP address correctly? We experienced that in most cases IP address problems cause the devices not to work properly.
- ✓ Try to deactivate wireless LAN / Wi-Fi on your computer

Also check https://www.audinate.com/resources/networks-switches for suitable network switches

In the Dante Controller, the DBS1 is highlighted in red and not configurable

Possible cause: The DBS1 was configured with a static IP address that is not within the subnet of the current network.

Solution: Open Dante® controller and double-click on the device. A window appears as seen on the right.



In this example, the DBS1 is configured to use IP 192.168.0.99 but the current network uses IP addresses 192.168.20.### which actually is a different subnet.
Connect your computer directly to the DBS1 and set the static IP address of your computer to be in the same subnet as the DBS1 (in this example we use 192.168.0.100) Restart the DBS1 to apply the network settings. Now, you can configure the DBS1 as needed. Reboot it again and reset your computer to the previous network settings.

Note: If you directly connect your computer to the DBS1 and your computer is set to acquire an IP address (DHCP) with no DHCP server present, your computer will automatically obtain a Link Local IP address (e.g. 169.254.###.###), the DBS1 will not be highlighted red and double clicking this entry will not show the dialog as in the figure above. In this case, you must configure your computer to use static IP as well.

Can I use the DBS1 on a wireless network?

Audio streaming and control over wireless LAN (Wi-Fi) is intentionally blocked by all Audinate software applications. A Dante® device will not appear in the Dante® Controller if it is connected over wireless LAN.

Do I need to deactivate my wireless LAN adaptor?

Our experience is, that Wi-Fi can be kept activated without hassle. In case of problems, especially network problems, it is worth to check again with deactivated Wi-Fi adapter.

10.3.General FAQ

Many options, features and behaviours that a user may expect to be device specific are actually Dante® specific. Thus, most of the following explanations are copied from the Dante® Controller user manual or online FAQ. Consult these resources for Dante® related information:

- ✓ http://dev.audinate.com/GA/dante-controller/userguide/pdf/latest/
- ✓ https://www.audinate.com/resources/faqs

Why does the DBS1 not detect the sample rate automatically?

Dante® supports different sample rates simultaneously within one network. So before subscribing to a transmitting device the sample rate needs to be selected with *Dante® Controller*. After that, *Dante® Controller* allows subscriptions to transmitting devices running with same sample rate only.

Keep in mind that the DBS1 can receive flows from different transmitting devices and auto detection of sample rate would fail if transmitting devices are not running with equal sample rates.

Why does the DBS1 not playback audio if connected directly to a computer with Dante® Virtual Soundcard as external soundcard?

Dante® is an audio network, not a point to point connection. DBS1 as a receiver and/or transmitter, always needs to be subscribed to the desired transmitter even if there is only one transmitter in the network. Audio routes are most frequently configured using the *Dante® Controller* software, running on any Windows or Mac OSX computer that is attached to the Dante® network. *Dante® Controller* and *Dante® Virtual Soundcard* can be used on the same computer.

Dante® Controller is not displaying details under Clock Status or Device Status. What's wrong?

This symptom indicates that the Dante® services cannot communicate with the Dante®-enabled devices on the network. This may be caused by port blockage due to protection software, or by the failure of a background service.

On a Windows PC make sure that no third-party firewalls or Internet protection products are active on the computer. Dante® software will automatically adjust the built-in Windows firewall.

If you have multiple network interfaces (NICs) on the computer, disable any that are not being used by Dante®.

Check the Services application (Start Menu -> Control Panel -> Administrative Tools -> Services) to see that the Dante® Control and Monitoring service is running. Restart this service if necessary.

11. Document revision history

Date	item	Version
2016-03-31	Added IP subnet conflict FAQ	1.3
2016-02-16	Updated document	1.2
2015-11-06	Firmware Update procedure	1.1
2013-11-14	Initial revision	1.0

The manufacturer reserves the right to make technical changes and modifications within the framework of legal norms as well as improving the performance characteristics of the product at any time.

12. contact

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