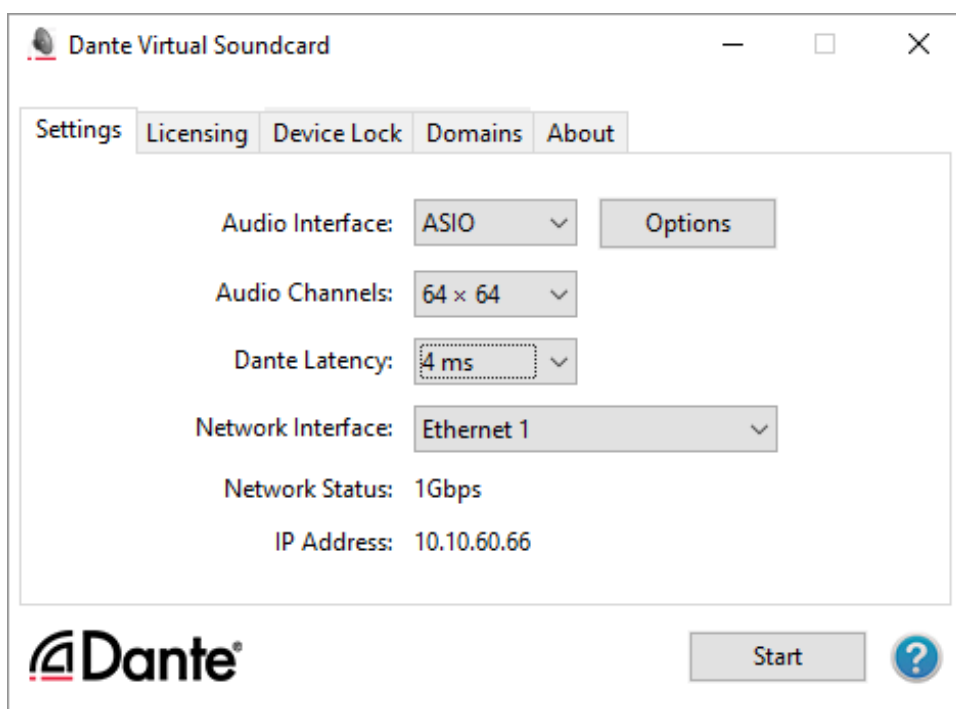


# Dante Virtual Soundcard

## User Guide

For Dante Virtual Soundcard software version 4.4.x (Windows) and 4.4.x (macOS)



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# Contents

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<b>Copyright</b>	<b>1</b>
<b>About Audinate</b>	<b>6</b>
About Dante	6
One Connection. Endless Possibilities.	6
<b>About Dante Virtual Soundcard</b>	<b>7</b>
What's New	7
v4.4.1	7
v4.3.0	7
v4.2.3 (macOS)	7
v4.2.0 (Windows)	7
v4.1.2 (macOS)	8
v4.1.x	8
v4.0.x	8
v3.10.x	8
<b>Before you Install: Important Notes</b>	<b>9</b>
Dante Controller	9
Minimum System Requirements	9
General	9
Windows	10
macOS	10
Operating System Updates	10
Supporting Services	10
Firewall Configuration	10
<b>Installing Dante Virtual Soundcard</b>	<b>12</b>
Downloading Dante Virtual Soundcard	12
Installing Dante Virtual Soundcard on Windows	12
Installing Dante Virtual Soundcard on macOS	13
Uninstalling Previous Versions	13
Windows	13
macOS	13
<b>Starting the Dante Virtual Soundcard Control Panel</b>	<b>14</b>
Windows	14
macOS	14
<b>Obtaining a Dante Virtual Soundcard License</b>	<b>15</b>
Types of Dante Virtual Soundcard License	15
Transferable License	15
Single Machine License	15
Obtaining a License ID	15
Entering a License ID	16

---

Managing your Dante Virtual Soundcard License .....	17
Upgrading a Single Machine License to a Transferable License .....	17
Moving a Transferable License to Another Computer .....	18
1. Deactivate Dante Virtual Soundcard on the old computer .....	18
2. Install, then activate Dante Virtual Soundcard on the new computer .....	19
Recovering a Transferable License .....	19
Using Dante Virtual Soundcard Offline .....	20
<b>Configuring Dante Virtual Soundcard .....</b>	<b>21</b>
Settings Available in Dante Controller .....	21
Changing the Device Name .....	21
Locking Dante Virtual Soundcard .....	21
Changing the Sample Rate .....	22
About sample rate pull-up/down .....	22
Changing the Encoding .....	22
Supported Audio Formats .....	22
Changing Settings in Windows .....	23
Start / Stop .....	24
Audio Interface .....	25
ASIO .....	25
WDM .....	25
Options .....	25
Audio Channels .....	26
Dante Latency .....	27
Network Interface .....	27
Network Status .....	28
Changing Settings in macOS .....	28
Start / Stop .....	29
Audio Channels .....	30
Dante Latency .....	30
Network Interface .....	31
Network Status .....	31
Licensing Tab .....	32
Device Lock Tab .....	32
About Device Lock .....	33
Locking Dante Virtual Soundcard .....	33
Unlocking Dante Virtual Soundcard .....	34
Domains Tab .....	34
Clear Domain Credentials .....	35
About Tab .....	36
<b>Using Dante Virtual Soundcard with an Audio Application .....</b>	<b>37</b>
Important Notes .....	37

---

Choosing an Audio Application .....	37
ASIO for Windows .....	37
WDM for Windows .....	37
Core Audio macOS .....	37
Choosing Dante Virtual Soundcard as your Audio Interface .....	38
Choosing DVS as your Audio Interface - Windows .....	38
ASIO .....	38
WDM .....	38
Windows Audio Shared Mode .....	39
Choosing DVS as your Audio Interface - macOS .....	40
<b>Troubleshooting .....</b>	<b>43</b>
Possible Messages on Startup .....	43
Possible Messages During Operation .....	43
Possible Messages During Licensing .....	44
Further Dante Troubleshooting .....	45
<b>Index .....</b>	<b>46</b>

## About Audinate

Audinate® is the leading provider of professional AV networking technologies globally. Audinate's Dante platform distributes digital audio and video signals over computer networks, and is designed to bring the benefits of IT networking to the professional AV industry. AV-over-IP (AVoIP) using Dante-enabled products ensures interoperability between AV devices and allows end users to enjoy high quality, flexible solutions – typically with a lower total cost of ownership.

## About Dante

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### One Connection. Endless Possibilities.

Dante replaces all audio and video connections with a computer network, effortlessly sending video or hundreds of channels of audio over slender Ethernet cables with perfect digital fidelity.

Adopted by hundreds of manufacturers in thousands of products, Dante is the de facto standard for modern AV connectivity.

For more information, please visit the Audinate website at [getdante.com](https://getdante.com).

# About Dante Virtual Soundcard

Dante Virtual Soundcard is a software application that turns your PC or Mac into a Dante-enabled device, allowing Dante audio traffic to be transmitted and received using the standard Ethernet port.

The latest version of Dante Virtual Soundcard supports the Core Audio (Mac OS X), Steinberg ASIO (Windows), and WDM (Windows) audio interfaces, and can be used with any supporting audio application.

Once you install Dante Virtual Soundcard on a computer and connect it to the Dante network, you can:

- Start and stop the application
- Lock and unlock the application
- Change the device latency (the minimum latency a receiving device should apply before playout)
- Select the number of audio channels available
- Select your preferred Ethernet network interface
- Change the audio sample rate, audio encoding bit depth and device name (using Dante Controller)

On Windows, you can also:

- Select ASIO or WDM mode
- View and set ASIO-specific options

## What's New

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### v4.4.1

- Support for macOS 14

### v4.3.0

- Support for [Transferable Licenses](#)

### v4.2.3 (macOS)

- Support for Apple Silicon (M1)
- Support for macOS 12
- The Dante Virtual Soundcard control panel now displays user-specified names for network interfaces

### v4.2.0 (Windows)

- Support for Windows 11



## v4.1.2 (macOS)

- Support for macOS 11 Big Sur

## v4.1.x

- [New notification on the control panel](#) if the DDM administrator has blocked configuration of Dante Virtual Soundcard when it is enrolled in a domain
- Support for macOS 10.15 Catalina

### *Previous versions*

## v4.0.x

- Support for [Dante Domain Manager](#)

## v3.10.x

- [Device Lock](#): The Device Lock Tab allows you to lock and unlock Dante Virtual Soundcard.
- The HTML user guide now resides online - only the PDF version is installed locally.

# Before you Install: Important Notes

## Dante Controller

You must have Dante Controller installed on a PC or Mac on your Dante network to control and route audio. It can be installed on the same computer as Dante Virtual Soundcard.


Dante Controller software can be downloaded from the Audinate website: [www.audinate.com](http://www.audinate.com)

Please refer to the Dante Controller User Guide for installation and operation instructions.

## Minimum System Requirements

The tables below list the minimum system specifications your computer should meet to be able to use the Dante Virtual Soundcard in conjunction with a typical audio application such as Steinberg's Cubase. A more powerful computer may be required if the Dante Virtual Soundcard is being used with or alongside other applications requiring significant computing resources or disk I/O transfers.

**Disclaimer:** It is possible that your computer may meet the requirements below but suffer from some other individual performance limitation related to its particular hardware. Please seek the advice of your computer support team.

 **Note:** Dante Virtual Soundcard does not support virtual machines on a standard DVS license. For information about virtual machine support for DVS, please contact Audinate Sales.

### General

Component	Minimum Requirement
Processor	Dual core CPU
Memory	4 Gigabytes of RAM
Network	Standard wired Ethernet network interface (100Mbps or Gigabit). On macOS, official Apple USB to Gigabit and Thunderbolt to Gigabit network adaptor cables are supported. A Gigabit (1000Mbps) interface is required for channel counts above 32x32 @48kHz. Wireless LAN (Wi-Fi) Ethernet interfaces are not supported.
Storage / Disk	As is the case with any application of this type, higher transfer rates are required for recording and playing back large numbers of audio tracks to and from disk. Disk speeds of 7200rpm and above are recommended for more than 16 channels of record / playback from disk.

## Windows

Component	Minimum Requirement
Operating System	Windows 10 and 11 <b>NOTE:</b> Both UTF-8 and Unicode are supported EXCEPT for host or device names; the DNS standard does not support Unicode for these.
Windows Drivers	System drivers must be of the performance standard expected by the Windows Logo Program
Audio Application	Must support the ASIO audio device interface for multi-channel recording / playback, or support WDM (Windows Driver Model) audio.

## macOS

Component	Minimum Requirement
Operating System	macOS 12, 13 and 14
Audio Application	Any audio application using the standard Core Audio interface to a sound card (e.g. iTunes, Cubase, Nuendo, Logic)

## Operating System Updates

Ensure your computer has the latest Windows or Apple Updates installed.

## Supporting Services

Dante Virtual Soundcard relies on supporting services for automatic Dante device discovery and for Dante device control and monitoring. These services must be installed and running for Dante software and devices to function properly.

On macOS, Dante Virtual Soundcard relies on the Apple Bonjour service for device discovery. Bonjour is installed as part of macOS, and runs automatically as a background service.

On Windows, Dante Virtual Soundcard uses the Audinate 'Dante Discovery' service for device discovery. Dante Discovery is installed and started automatically when you install Dante Virtual Soundcard.

On macOS and Windows, Dante devices and software use the Audinate 'ConMon' service for control and monitoring. ConMon is installed and started automatically when you install Dante Virtual Soundcard.

## Firewall Configuration

Firewall configuration for Windows Firewall and macOS built-in firewall is automatically handled during installation, and on system boot (every time the Dante Virtual Soundcard services start).

For information about Dante ports, please refer to this FAQ: <https://www.audinate.com/faq/which-network-ports-does-dante-use>

If you are using a third-party firewall product, use the port information provided above to configure it accordingly.

# Installing Dante Virtual Soundcard

This section overviews the installation and operation of Dante Virtual Soundcard.

## Downloading Dante Virtual Soundcard

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Dante Virtual Soundcard is available for download from Audinate's website.

To download a copy of Dante Virtual Soundcard:

1. Go to Audinate's website: [www.audinate.com](http://www.audinate.com).
2. Navigate to **Products > Dante Virtual Soundcard**.
3. Under 'Download', choose your operating system.
4. Click the red download button.

This will take you to the appropriate DVS release page for your operating system.

Click the link under 'File downloads' to download the DVS installer.


## Installing Dante Virtual Soundcard on Windows


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Once you have downloaded the Dante Virtual Soundcard installer file, navigate to the directory where you have downloaded it.

To install:

1. Ensure you are logged on to your PC as an administrator.
2. Double-click the icon for the Dante Virtual Soundcard installer.
3. Read the license text, and if you accept the terms of the agreement, click the 'I Agree...' checkbox.  
If you do not accept the terms, click **Close** to terminate the installation.
4. Click **Install**.
5. Acknowledge / accept any Windows security warnings that are displayed.

 **Note:** If you are upgrading to a new version of Dante Virtual Soundcard, you do not need to uninstall the previous version first. If you do uninstall the previous version before upgrading, you will need to re-enter your license key to activate the software.

 **Note:** If you have Dante Virtual Soundcard selected as the default audio interface in Windows, upgrading to a new version of Dante Virtual Soundcard will reset the selection to an alternative interface, and you will need to reselect Dante Virtual Soundcard following the upgrade.

If you already have the latest version of Dante Virtual Soundcard installed, running the installer again will allow you to repair or uninstall the application.

## Installing Dante Virtual Soundcard on macOS

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To install Dante Virtual Soundcard on macOS:

1. Double-click the Dante Virtual Soundcard .dmg file.
2. A drive icon will appear on your Desktop Finder window. Double click it to open.
3. Double-click the Dante Virtual Soundcard.pkg. This will run the installer.
4. Read the license text, and if you accept the terms of the agreement, click **Agree**.

If you do not accept these terms, click **Disagree** to terminate the installation.

## Uninstalling Previous Versions

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You do not usually need to uninstall a previous version of Dante Virtual Soundcard before installing a new version.

However, if you should need to uninstall Dante Virtual Soundcard:

### Windows

- To uninstall via the Windows Control Panel: **Start > Control Panel > Add or Remove Programs**
- To uninstall via the Audinate uninstaller: **Program files / apps > Audinate > Dante Virtual Soundcard > Uninstall**

### macOS

To uninstall previous versions of the Dante Virtual Soundcard, please use the Uninstall tool available in the new .dmg file.

# Starting the Dante Virtual Soundcard Control Panel

The Dante Virtual Soundcard Control Panel enables user interaction with Dante Virtual Soundcard.

## Windows

By default the Dante Virtual Soundcard will be installed in:

`C:\Program Files\Audinate\Dante Virtual Soundcard\`

In 64-bit Windows, it will appear under `C:\Program Files (x86)`

The Dante Virtual Soundcard Control Panel can be started in various ways:


- Windows 7: **Start > Programs > Audinate > Dante Virtual Soundcard > Dante Virtual Soundcard**; or
- Windows 8.1 or 10: **Windows** key / menu > **All apps > Audinate > Dante Virtual Soundcard**
- Navigate to the directory where it is installed, and double-click the Dante Virtual Soundcard icon:



## macOS

The Dante Virtual Soundcard application will be installed in the Applications folder.

To start the Dante Virtual Soundcard Control Panel:

- Navigate to the Applications folder, and click the Dante Virtual Soundcard icon: 

# Obtaining a Dante Virtual Soundcard License

Dante Virtual Soundcard will not operate until a valid License ID has been entered and activated. The first time you start the Dante Virtual Soundcard Control Panel, you will be presented with the Licensing screen.

## Types of Dante Virtual Soundcard License

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There are two types of license available for Dante Virtual Soundcard:

### Transferable License

A Transferable License can be moved between computers, but it can only operate on one computer at a time.

When used with a Transferable Licence, Dante Virtual Soundcard must 'phone home' (connect to the Audinate license server) at least every 30 days. This requires that the computer has access to the Internet at least temporarily for this purpose.

### Single Machine License

A Single Machine License can only ever be installed permanently on one computer.

When used with a Single Machine Licence, there is no need for the computer running Dante Virtual Soundcard to access the Internet after the initial activation.

It is possible to upgrade a Single Machine License to a Transferable License. Please refer to [Managing your Dante Virtual Soundcard License](#) for more information.

## Obtaining a License ID

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You are required to register with Audinate at [www.audinate.com](http://www.audinate.com) and provide an email address to obtain a valid License ID for Dante Virtual Soundcard.



**Note:** If you have purchased a Dante product that entitles you to a free or discounted copy of Dante Virtual Soundcard, details of how to obtain this will be provided in the documentation accompanying your product.

If the machine on which you are installing Dante Virtual Soundcard is connected to the Internet, click the **Get a License** button to be taken directly to the Audinate website.




## Entering a License ID

Once you have obtained a License ID, it can be entered in the Licensing tab. The **Activate** button is not enabled until a correctly formatted License ID has been entered into the dialog box.

You can paste the entire license ID directly into the first text field on the licensing screen, or enter the license manually using the keyboard.

Click **Activate** to register the installation with the Audinate servers.

 **Note:** Ensure that your computer has access to the Internet during this step.

Once this step has been completed, a “Licensed assigned to ...” message will appear, and the software is ready for use. The Control Panel will appear as shown below:

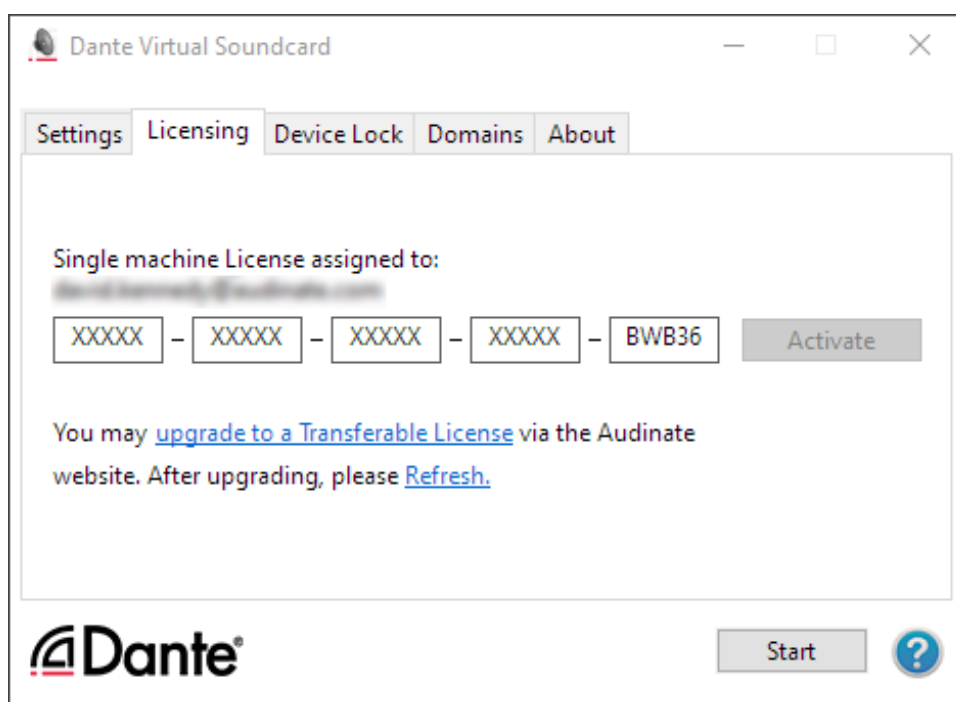


Figure 1 - Dante Virtual Soundcard Licensing Screen - Licensed (Windows)

If you are using a trial license the Control Panel will appear as shown below:

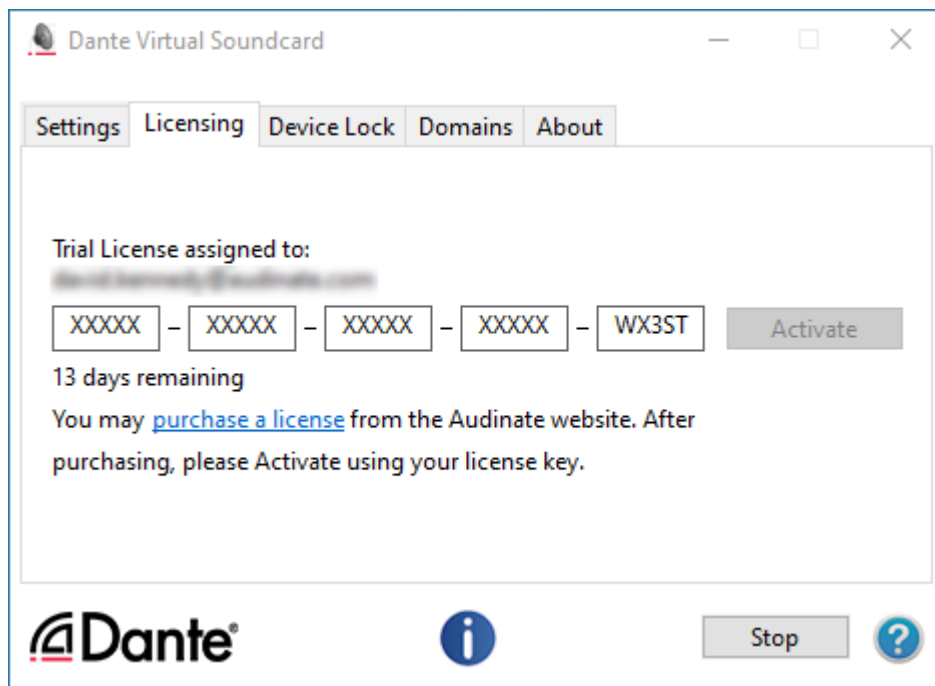


Figure 2 - Dante Virtual Soundcard Licensing Screen - Trial License (Windows)

In order to continue to use the Dante Virtual Soundcard after the trial period has expired, you will need to purchase a full license.

## Managing your Dante Virtual Soundcard License

### Upgrading a Single Machine License to a Transferable License

You can purchase an upgrade for your existing Single Machine License from Audinate online.

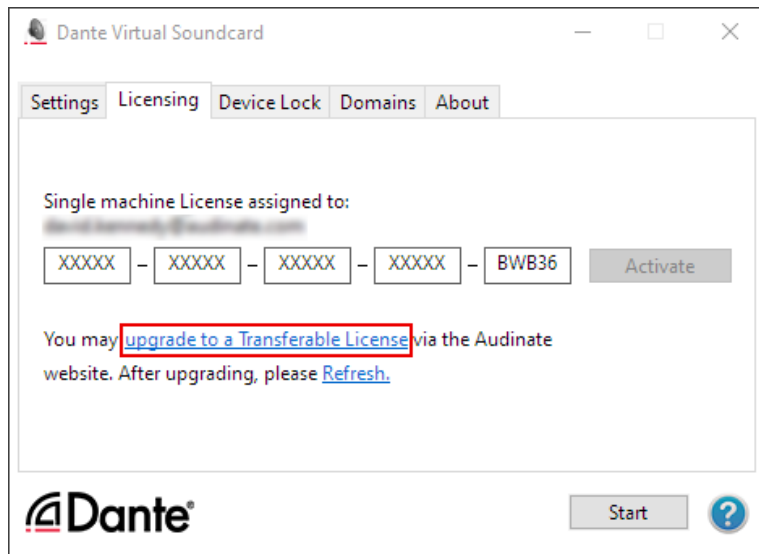
There are two ways to initiate the upgrade:

1. Through the Licensing Tab in Dante Virtual Soundcard
2. Through the 'My Products' page on [www.audinate.com](http://www.audinate.com)

To upgrade through the Licensing Tab in Dante Virtual Soundcard, simply click the 'Upgrade to a Transferable License' hyperlinked text, and follow the prompts. Note you will need Internet access to complete this process, and will be prompted to log in to your [audinate.com](http://audinate.com) account using your email address and password.



**Note:** As of DVS v4.3.0.7 the 'upgrade' link may not appear if your DVS license was obtained from a bundle or token. These licenses can be upgraded through the 'My Products' page at [audinate.com](http://audinate.com) - please see the following section. You will also need to 'Recover' the license, also through the 'My Products' page, before it can be activated on a new machine.



To upgrade through the 'My Products' page, locate the relevant Dante Virtual Soundcard license on the page. If you have multiple licenses for Dante Virtual Soundcard, you can check the License ID and/or Description to ensure you are upgrading the correct license. Click 'Upgrade' to proceed.

After upgrading, click 'Refresh' in the Dante Virtual Soundcard Licensing Tab to update to the new license type.

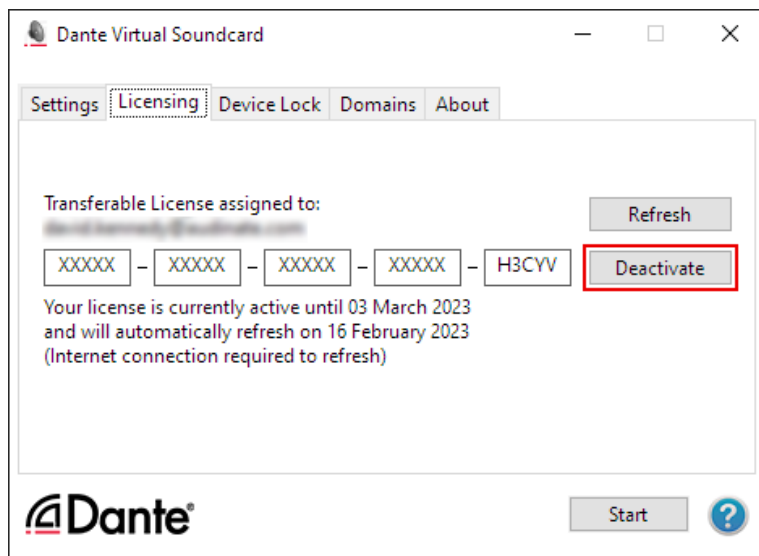
 **Note:** It is not possible to downgrade a Transferable License to a Single Machine License.

## Moving a Transferable License to Another Computer


Moving a Transferable License to another computer requires two steps:

### 1. Deactivate Dante Virtual Soundcard on the old computer

To deactivate Dante Virtual Soundcard, click the 'Deactivate' button in the Licensing Tab. Note that the computer will need to access the Internet to complete this process.



If you have multiple Dante Virtual Soundcard licenses, make a note of the visible part of the License ID so you can identify the license in My Products when activating on the new computer.

 **Note:** The Deactivate function is only available if you are using a Transferable License.

## 2. Install, then activate Dante Virtual Soundcard on the new computer

To activate Dante Virtual Soundcard on the new computer, obtain the License ID from the My Products page on [www.audinate.com](http://www.audinate.com) and copy > paste, or enter it into the Licensing Tab on the new computer.


To access your Products page:

1. Log in to [www.audinate.com](http://www.audinate.com).
2. Click 'My Account' at the top right of the page.
3. Click 'My Products'.

## Recovering a Transferable License

If you are unable to deactivate a Dante Virtual Soundcard Transferable License because you cannot access the computer for which it was used, you can recover the license from the 'My Products' page on [www.audinate.com](http://www.audinate.com).

Then locate the relevant Dante Virtual Soundcard license in the list, click 'Recover' and follow the prompts.

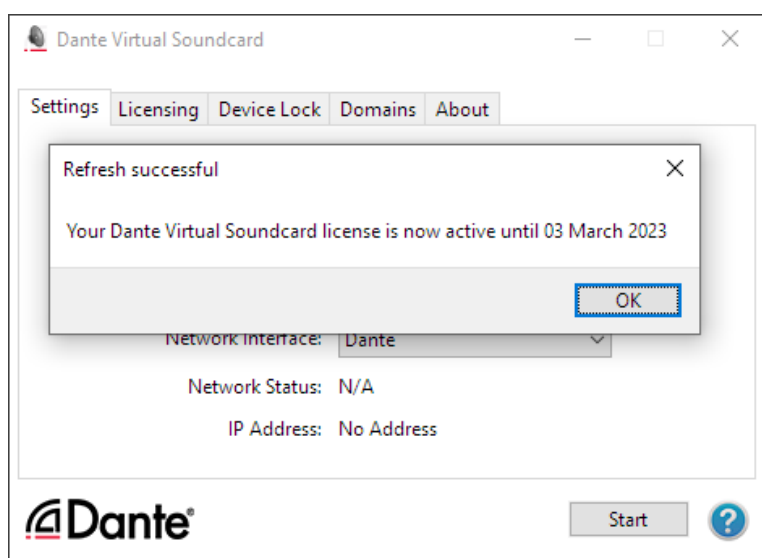
 **Note:** For security reasons, you can only Recover a Dante Virtual Soundcard license that is associated with your Audinate account. If ownership has changed, please contact Audinate Support to update this before recovering your Transferable License.

## Using Dante Virtual Soundcard Offline

When using Dante Virtual Soundcard with a Transferable License, it regularly connects to the Audinate licensing server to confirm the validity of its license, and to 'refresh' the activation. In the absence of an active Internet connection, it will remain operational for a maximum of 30 days, after which time it will automatically deactivate.

To ensure continuous operation with a Transferable License, you must run Dante Virtual Soundcard with an active Internet connection at least once every 30 days.

You can check in the Licensing Tab of Dante Virtual Soundcard to see when the next refresh is required. You can also manually refresh the license by clicking the 'Refresh' button; this will give you 30 days from that time before the next refresh is required.



When using Dante Virtual Soundcard with a Single Machine License, there is no need to refresh the activation or connect to the Internet for any reason after it is initially activated.

# Configuring Dante Virtual Soundcard

It is important to understand that the Control Panel that is displayed when you start the application is a means of configuring and controlling Dante Virtual Soundcard, it is *not* the Dante Virtual Soundcard itself. The actual Dante Virtual Soundcard runs as a background process.

When you open the Dante Virtual Soundcard Control Panel, you are presented with a window with five tabs: Settings, Licensing, Device Lock, Domains and About. The **Settings** tab is selected by default when the application is opened.

## Settings Available in Dante Controller

Some Dante Virtual Soundcard settings are only configurable via Dante Controller:

- Device Name
- Sample Rate (and sample rate pull-up/down in Windows)
- Encoding (audio bit depth)

To change these settings, use the Device Config tab of the Device View in Dante Controller.

To open the Device View > Device Config tab:

1. Completely quit out of any audio applications (such as DAWs) that are using Dante Virtual Soundcard. Connected applications may prevent new settings from taking effect.
2. Ensure Dante Virtual Soundcard is running.
3. In Dante Controller, open the device view for Dante Virtual Soundcard - either:
  - Double-click the Dante Virtual Soundcard device in the routing view, or:
  - Use Ctrl + D (command + D for macOS) to open the device view, and select the Dante Virtual Soundcard device from the drop-down menu.
4. Click the Device Config tab.

See the Dante Controller user guide for more information about configuring Dante devices.

### Changing the Device Name

By default, Dante Virtual Soundcard will appear in Dante Controller with the same name as the computer on which it is installed.

To change the Dante Virtual Soundcard device name:

1. In Dante Controller, open the Device Config tab for Dante Virtual Soundcard.
2. In the Rename Device field, enter the new device name and click **Apply**.

### Locking Dante Virtual Soundcard


You can lock and unlock Dante Virtual Soundcard [from the control panel](#), or remotely using Dante Controller. Refer to the [Dante Controller user guide](#) for information about locking Dante devices remotely.

## Changing the Sample Rate

To change the sample rate and sample rate pull-up/down (Windows only) for Dante Virtual Soundcard:

1. In Dante Controller, open the Device Config tab for Dante Virtual Soundcard.
2. Use the Sample Rate drop-down menus to set the required sample rate and pull-up/down.


 **Note:** Changing the sample rate will interrupt audio.

 **Note:** Increasing the sample rate in Dante Controller may reduce the channel count ('Audio Channels') setting on Dante Virtual Soundcard, if the channel count setting is not supported at the new sample rate. Subsequently decreasing the sample rate, however, will not restore the channel count setting to its previous value.

### About sample rate pull-up/down

Sample rate pull-up down allows you to adjust the sample rate to account for frame rate conversion in video.

 **Note:** Supported on ASIO and macOS only.

 **Note:** Applying pull-up/down places the device in a dedicated clock domain, so it will only be able to sync with other devices with the same sample rate and pull-up/down.

## Changing the Encoding

The encoding value is the audio bit depth.

To change the encoding setting:

1. In Dante Controller, open the Device Config tab for Dante Virtual Soundcard.
2. Use the Encoding drop-down menu to set the required bit depth.

 **Note:** Changing the encoding setting will interrupt audio.


## Supported Audio Formats


The supported audio formats are shown below.

Audio format	Supported values		
	ASIO (Windows)	WDM (Windows)	Core Audio (macOS)
Sample rate	<ul style="list-style-type: none"><li>■ 44.1 kHz</li><li>■ 48 kHz</li><li>■ 88.2 kHz</li><li>■ 96 kHz</li><li>■ 176.4 kHz</li><li>■ 192 kHz</li></ul>	<ul style="list-style-type: none"><li>■ 44.1 kHz</li><li>■ 48 kHz</li><li>■ 88.2 kHz</li><li>■ 96 kHz</li></ul>	<ul style="list-style-type: none"><li>■ 44.1 kHz</li><li>■ 48 kHz</li><li>■ 88.2 kHz</li><li>■ 96 kHz</li><li>■ 176.4 kHz</li><li>■ 192 kHz</li></ul>
Bit depth	<ul style="list-style-type: none"><li>■ 16 bit</li><li>■ 24 bit</li><li>■ 32 bit</li></ul>	<ul style="list-style-type: none"><li>■ 16 bit</li><li>■ 24 bit</li><li>■ 32 bit</li></ul>	<ul style="list-style-type: none"><li>■ 16 bit</li><li>■ 24 bit</li><li>■ 32 bit</li></ul>

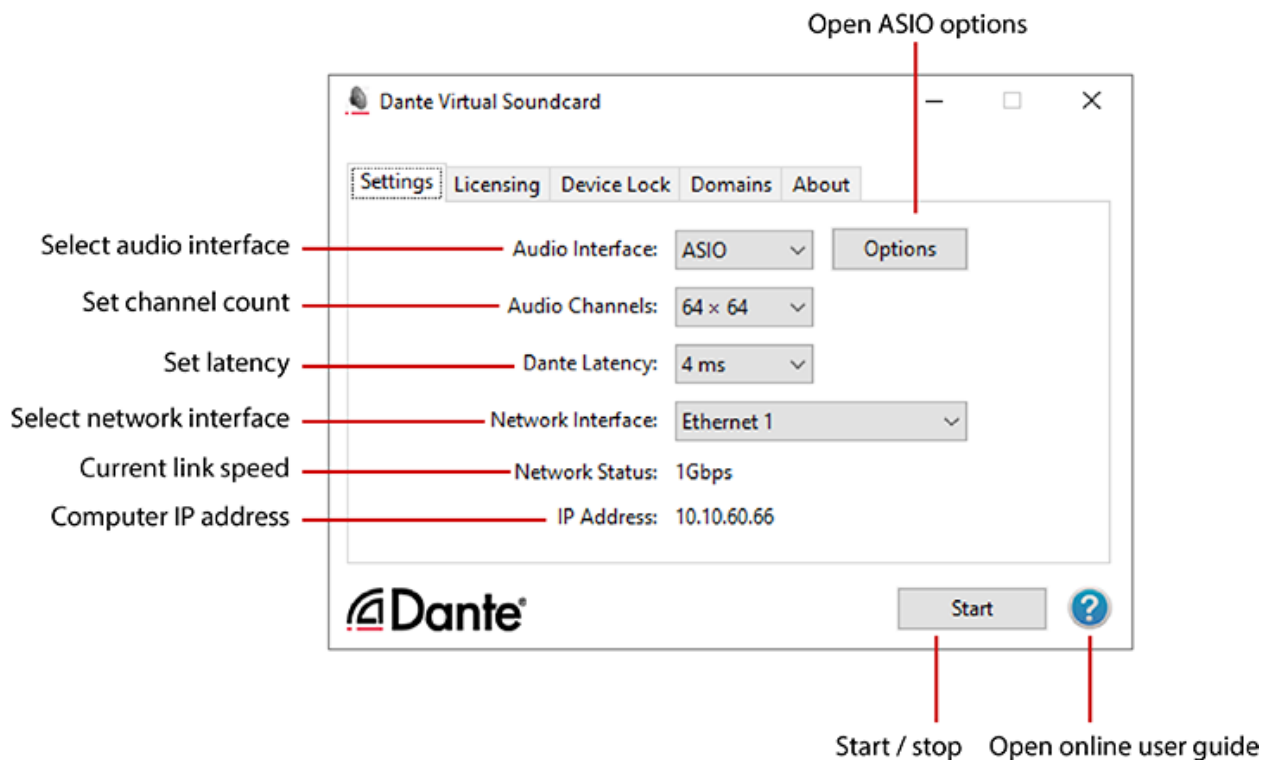
## Changing Settings in Windows

The Settings tab is the first screen you see when you open the Dante Virtual Soundcard Control Panel.

 **Note:** Most settings cannot be changed while Dante Virtual Soundcard is running, or when an ASIO application is connected.


 **Note:** Settings cannot be changed when [device lock](#) is active.





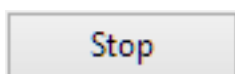
To change settings:

1. Completely quit out of any audio applications that are using the Dante Virtual Soundcard.
2. Ensure device lock is inactive.
3. Stop Dante Virtual Soundcard.
4. Change your Dante Virtual Soundcard settings.
5. Restart Dante Virtual Soundcard.
6. Restart your audio application/s.

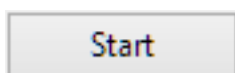
 **Note:** The device name and audio format (sample rate and bit depth) must be set in Dante Controller, while Dante Virtual Soundcard is running. You should quit out of any connected applications before changing the device name or audio format.

## Start/Stop

The Start / Stop button in the Settings Tab indicates whether Dante Virtual Soundcard is currently running, and can be used to toggle the running state.



Button shows 'Stop': Dante Virtual Soundcard is currently running



Button shows 'Start': Dante Virtual Soundcard is currently stopped

Click the button to toggle the running state of Dante Virtual Soundcard.



**Important:** If you are recording via Dante Virtual Soundcard, stop the recording *before* you stop Dante Virtual Soundcard. Stopping Dante Virtual Soundcard during a recording can lead to driver instability issues.



**Note:** Dante Virtual Soundcard can be either on or off (running or stopped) when the Dante Virtual Soundcard Control Panel is started. It will always be in the state it was in when the Control Panel was last closed. If the computer is power cycled, Dante Virtual Soundcard will resume in the state it was in when the computer was powered off.

When Dante Virtual Soundcard is running, it will be visible in Dante Controller. By default, the device name shown in Dante Controller will be the same as the name of the computer on which it is running. Most Dante Virtual Soundcard settings can only be changed while it is stopped.

## Audio Interface

---

Use the Audio Interface drop-down menu to switch between ASIO and WDM audio engines. Dante Virtual Soundcard must be stopped before you can change the Audio Interface.

### ASIO

In ASIO mode, Dante Virtual Soundcard supports audio applications that use ASIO audio, for example Steinberg Cubase or Nuendo, Avid Pro Tools and Ableton Live.

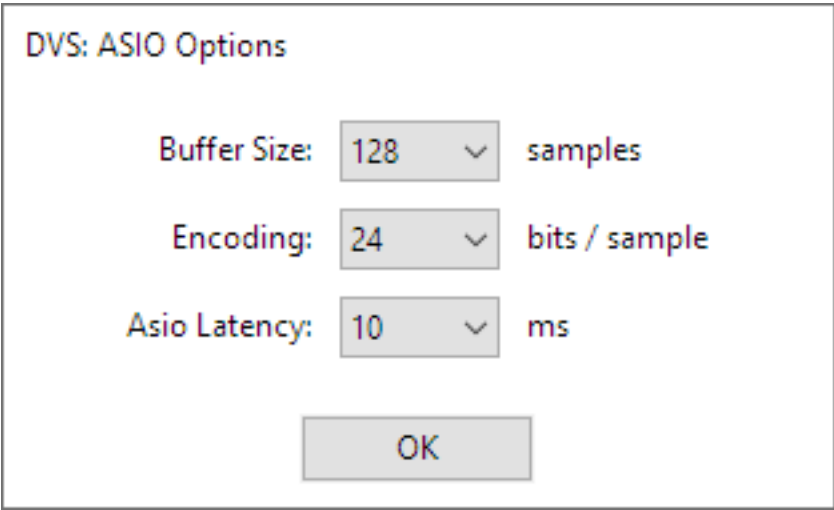
In ASIO mode, the [Options](#) button is enabled.

### WDM

In WDM mode, Dante Virtual Soundcard supports audio applications that use WDM audio, for example iTunes for Windows, Windows Media Player and Skype.

### Options

This button is only available in Dante Virtual Soundcard for Windows, in ASIO mode. The macOS version of Dante Virtual Soundcard uses Core Audio, and has no related user-configurable settings.



The ASIO options supported by Dante Virtual Soundcard are shown below.

Setting	Description	Allowed values
Buffer Size	Size (in audio samples) of the ASIO buffer used when transporting audio between Dante Virtual Soundcard and the audio application. Computers with poor scheduling performance will need to use a higher setting.  By default, the Buffer size is set to 128 samples.	32, 64, 128, 256, 512, 1024, or 2048 samples
Encoding	Default: 24 bit.  The bit depth required by the audio application being used with Dante Virtual Soundcard. Some audio applications may not support the Dante network's native 24-bit, and will need a different bit depth set at the ASIO interface.  If the ASIO bit depth does not match the Dante Virtual Soundcard bit depth set in Dante Controller, all received audio is truncated or padded to the value the application supports, and vice versa.	16, 24 or 32 bits
ASIO Latency	Latency to insert before transmitting audio from the ASIO buffer on to the Dante network. This compensates for the variability in computer scheduling.  By default, the ASIO latency is set to 10ms.	1, 2, 3, 5, 10 and 20ms

## Audio Channels

Use the Audio Channels drop-down menu to set the number of transmit and receive Dante audio channels available and advertised on the network. This enables the number of channels shown in Dante Controller (and any connected audio application) to be limited, if required. The maximum number of channels supported depends on the interface type and the selected audio format.



**Important:** The number of Dante audio channels that can be reliably handled by Dante Virtual Soundcard is dependent on the network speed and sample rate. The maximum recommended number of channels is shown in the table below.

Network speed	Max Channels @ 48kHz / 24bit	Max Channels @ 96kHz / 24bit	Max Channels @ 192kHz / 24bit
100Mbps	32x32	16x16	8x8
1000Mbps (Gigabit)	64x64	32x32	8x8



**Note:** A Gigabit network is recommended for best performance.



**Note:** For recording and playing back more than 16 audio tracks to and from disk, disk speeds of 7200rpm and above are recommended.

## Dante Latency

The Dante Latency drop-down menu allows you to set the device latency (time before playout).

A Dante device receiving audio from Dante Virtual Soundcard will use this value (unless the receiving device only supports higher latencies). The latency compensates primarily for computer scheduling jitter, as well as delay variations encountered in the network.

Supported values are:

- 4ms
- 6ms
- 10ms

Latencies above 4ms are not supported at sample rates of 176.4 kHz or 192 kHz when transmitting to hardware devices running Dante firmware v3.7.x or earlier. In order to enable these latency settings for the higher sample rates, upgrade your Dante device firmware to v3.8.x or above. Please contact your device manufacturer for information about Dante firmware upgrades.

As a rule of thumb, 4ms can be used where Dante Virtual Soundcard is running on a high-spec computer with low scheduling jitter. Computers with poor scheduling performance may need to use the 10ms Dante Latency setting.



**Note:** If the Dante Latency setting is set too low to compensate for network delay variation and computer scheduling jitter, there is a risk of intermittent loss of audio.

## Network Interface

The Network Interface drop-down menu allows you to select the computer's network interface that Dante Virtual Soundcard will use to transmit and receive Dante audio.

The available entries will be all the wired Ethernet network interfaces currently enabled on the machine. For machines with only one Ethernet network interface enabled, there will only be one option available. The IP address of the currently selected interface is displayed below the Network Status field.

**Note:** Dante Virtual Soundcard does not support wireless, Bluetooth or bridged Ethernet interfaces. On macOS, official Apple USB to Gigabit and Thunderbolt to Gigabit network adaptor cables are supported. Dante Virtual Soundcard on Windows functionally supports high-performance USB Ethernet adapters. However, it is the responsibility of the user to test their hardware prior to use in production environments.

**Note:** All Dante applications on the same computer have a shared understanding of the primary Dante interface. For example, if you have installed Dante Controller on the same PC as Dante Virtual Soundcard, and a new primary interface is selected from within Dante Controller, Dante Virtual Soundcard will automatically switch to the newly selected interface, and begin operating on that interface.

## Network Status

The Network Status value indicates the link speed of the computer's Ethernet network interface that is currently in use by Dante Virtual Soundcard. It can have the following values:

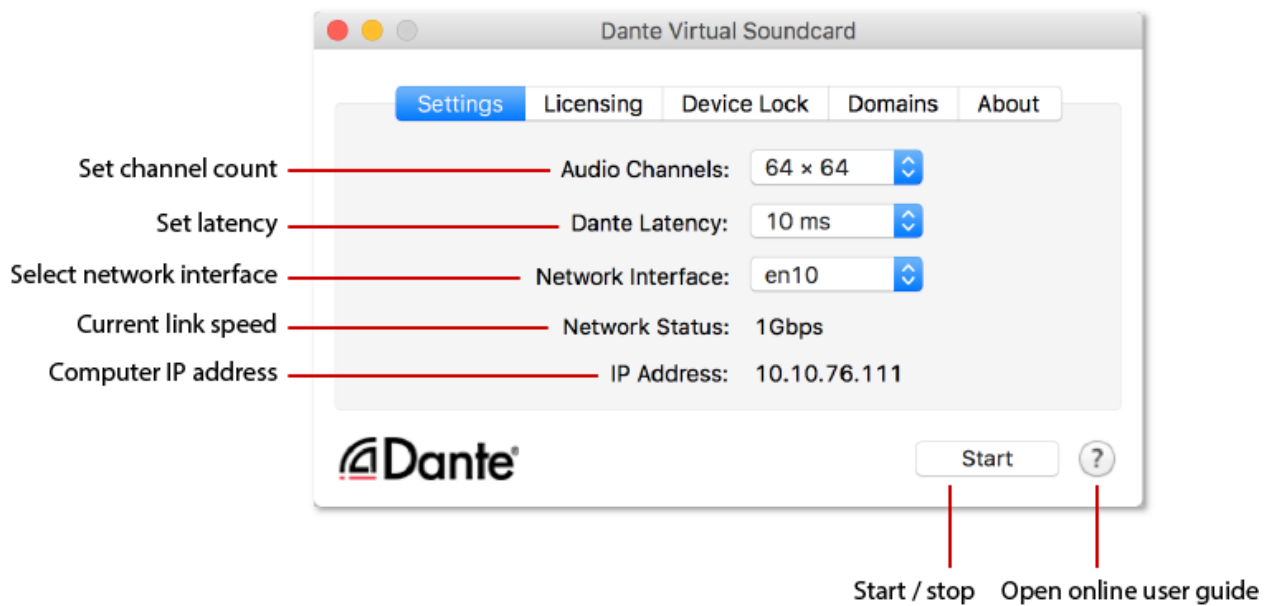
- 1Gbps (1 gigabit per second)
- 100Mbps (100 megabits per second)
- N/A (no Ethernet network detected)

## Changing Settings in macOS

The Settings tab is the first screen you see when you open the Dante Virtual Soundcard Control Panel.


**Note:** Settings cannot be changed while Dante Virtual Soundcard is running.

**Note:** Settings cannot be changed when [device lock](#) is active.



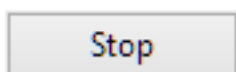
To change settings:

1. Completely quit out of any audio applications that are using the Dante Virtual Soundcard.
2. Ensure device lock is inactive.
3. Stop Dante Virtual Soundcard.
4. Change your Dante Virtual Soundcard settings.
5. Restart Dante Virtual Soundcard.
6. Restart your audio application/s.

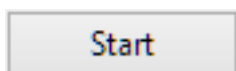
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Latencies above 4ms are not supported at sample rates of 176.4 kHz or 192 kHz when transmitting to hardware devices running Dante firmware v3.7.x or earlier. In order to enable these latency settings for the higher sample rates, upgrade your Dante device firmware to v3.8.x or above. Please contact your device manufacturer for information about Dante firmware upgrades.

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The Network Status value indicates the link speed of the computer's Ethernet network interface that is currently in use by Dante Virtual Soundcard. It can have the following values:

- 1Gbps (1 gigabit per second)
- 100Mbps (100 megabits per second)
- N/A (no Ethernet network detected)



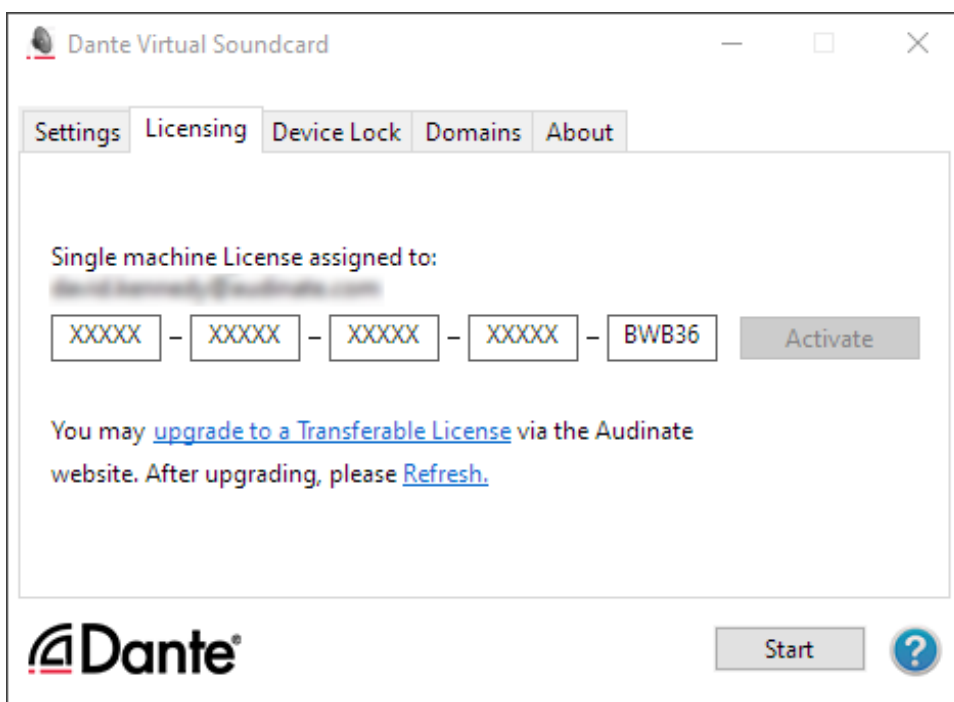
## Licensing Tab

The Licensing Tab allows you to see the type and status of the license you have, and also allows you to enter a new license key and reactivate the Dante Virtual Soundcard.

If you are using a Single Machine License, you can upgrade to a Transferable License using this tab.

If you are using a Transferable License, you can see when you next need to go online to refresh the activation, and you can 'refresh' (extend) the activation for 30 more days. You can also deactivate the license so you can use it on another computer.

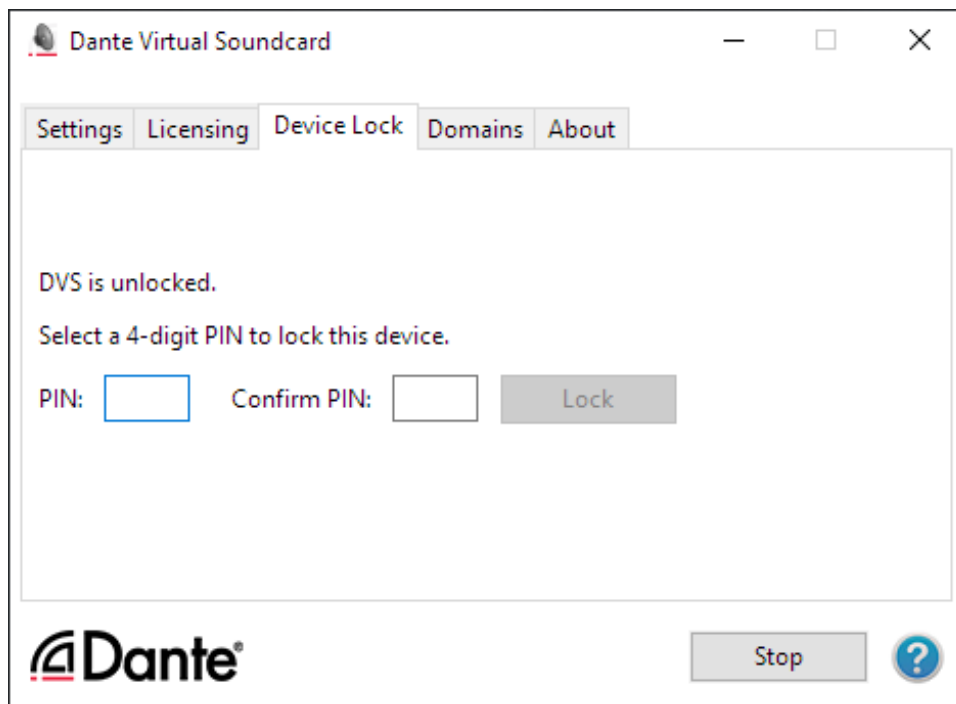
If you have a trial license, it will display the number of days remaining before the trial license expires.



See [Obtaining a Dante Virtual Soundcard License](#) and [Managing your Dante Virtual Soundcard License](#) for more details on the use of this tab.

## Device Lock Tab

The Device Lock Tab allows you to lock and unlock Dante Virtual Soundcard.



## About Device Lock

Device Lock is a Dante feature that allows you to lock and unlock supported Dante devices using a 4-digit PIN (Personal Identification Number).

When a device is locked, audio will continue to flow according to its existing subscriptions, but it cannot be configured or controlled over the network - its subscriptions and configuration settings become read-only. When Dante Virtual Soundcard is locked, you cannot use the control panel to change its settings.

To configure or control Dante Virtual Soundcard when it has been locked, you must first unlock it directly using the control panel, or remotely using the PIN with which it was locked.

## Locking Dante Virtual Soundcard

You can lock Dante Virtual Soundcard from the control panel using the Device Lock tab, or remotely using Dante Controller.

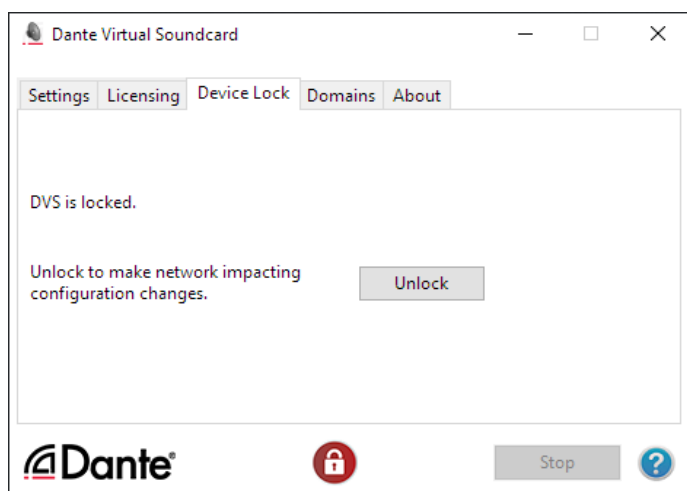
Refer to the [Dante Controller user guide](#) for more information about locking Dante devices remotely.

To lock Dante Virtual Soundcard directly from the control panel:


1. Select the Device Lock Tab.
2. Enter a 4-digit number in the PIN field.
3. Re-enter the PIN in the Confirm PIN field.
4. Click **Lock**.

The controls in the Settings Tab will become inactive, and you will be unable to remotely configure Dante Virtual Soundcard or change its subscriptions using Dante Controller.

When Dante Virtual Soundcard is locked, a red padlock icon is displayed in the Device Lock Tab:



You can also easily identify locked devices in Dante Controller.

 **Note:** You cannot lock Dante Virtual Soundcard when it is [enrolled in a domain](#).

## Unlocking Dante Virtual Soundcard

You can unlock Dante Virtual Soundcard directly from the control panel (using the Device Lock tab), or remotely using Dante Controller.

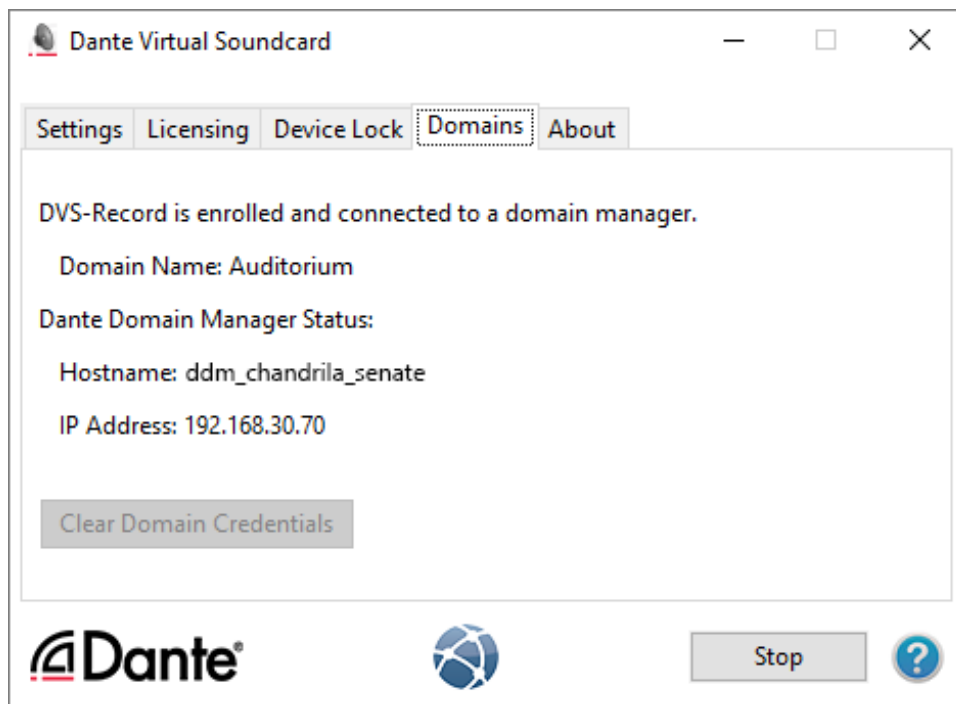
Refer to the [Dante Controller user guide](#) for more information about unlocking Dante devices remotely.

To unlock Dante Virtual Soundcard directly from the control panel:

1. Select the Device Lock Tab.
2. Click **Unlock**.


## Domains Tab

When Dante Virtual Soundcard is enrolled in a Dante Domain Manager (DDM) system, the Domains tab displays the domain name and information about the DDM server.



When Dante Virtual Soundcard is enrolled, a domain icon is displayed at the bottom of the control panel on all tabs.

Refer to the Dante Domain Manager user guide for more information about Dante domains and enrolling devices.

 **Note:** You cannot [lock](#) Dante Virtual Soundcard when it is enrolled in a domain.

If the DDM server is unavailable, a warning icon is displayed at the bottom of the control panel:



If the DDM administrator has blocked configuration of Dante Virtual Soundcard when it is enrolled in a domain, the control panel becomes read-only and this icon is displayed at the bottom of the control panel:



## Clear Domain Credentials

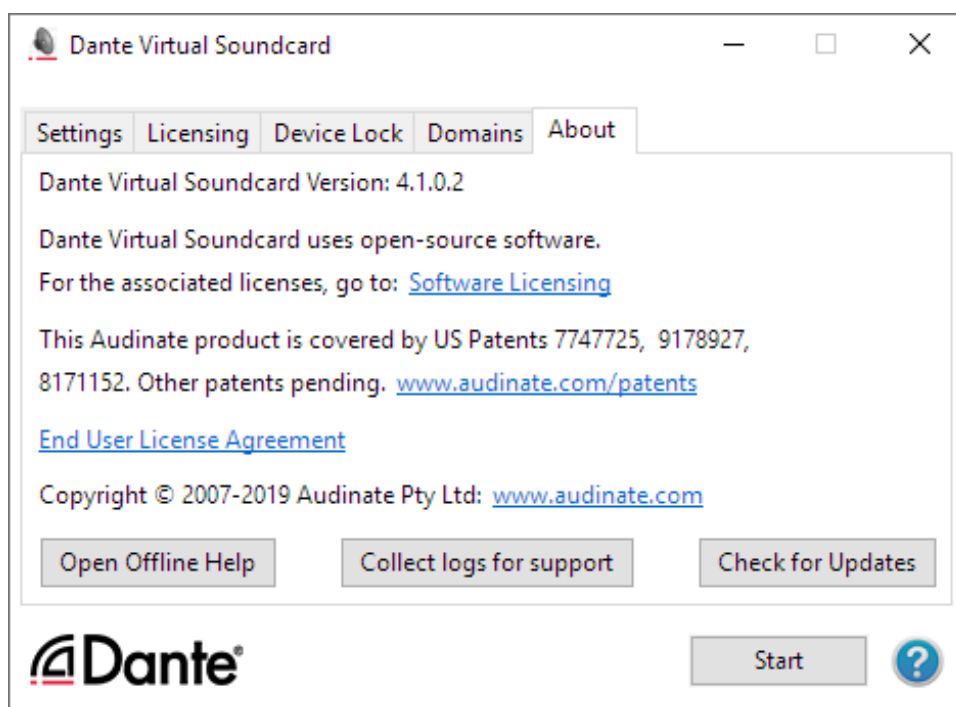
When Dante Virtual Soundcard is enrolled in a domain, it stores information locally about the domain and DDM server, so that it can automatically rejoin its domain when it is restarted. The Clear Domain Credentials button removes this information.


Use Clear Domain Credentials if you have moved the Dante Virtual Soundcard computer to a different network, or un-installed DDM, without first un-enrolling Dante Virtual Soundcard from its domain. This will ensure that Dante Virtual Soundcard can be automatically discovered when it is next connected to a DDM network.

## About Tab


The About Tab displays:

- The version of Dante Virtual Soundcard that you have installed
- A hyperlink to open-source licenses relevant to the software (for reference only)
- Patent information
- A hyperlink to the end user license agreement
- A hyperlink to the Audinate website



 **Note:** On OS X / macOS, some options are available from the application menu instead.

The About tab also allows you to:

- Open offline help. The offline help is a locally-installed PDF of the user guide, which may not be the latest version - use the help button  to view the latest online HTML version of the user guide (requires an Internet connection).
- Collect logs for support. You should not use this feature unless instructed to do so by Audinate Technical Support.
- Check for updates. If a new version is available, you can download it to your hard drive and install it from there.

# Using Dante Virtual Soundcard with an Audio Application

## Important Notes

---

Dante Virtual Soundcard acts in a very similar way to a hardware soundcard.



**Note:** Make sure that you start Dante Virtual Soundcard with the settings you require *before* you start your audio application.



**Note:** Digital Audio Workstations (DAWs) treat Dante Virtual Soundcard like any other ASIO (Windows), WDM (Windows) or Core Audio (macOS) device. For support information about using audio devices (including Dante Virtual Soundcard) with your DAW, please use the support services provided by the manufacturer of your DAW.

## Choosing an Audio Application

---

Dante Virtual Soundcard acts like a standard Core Audio device in a macOS machine, and like an ASIO or WDM sound device in a PC running Windows.

### ASIO for Windows

In ASIO mode, Dante Virtual Soundcard is compatible with audio applications that support the ASIO standard. This is the interface preferred by most pro audio Windows applications, such as Cubase, Pro Tools and Ableton Live.

### WDM for Windows

In WDM mode, Dante Virtual Soundcard supports common audio applications available for Windows, such as Windows Media Player, iTunes and Skype.

### Core Audio macOS

The Core Audio interface is used by almost all audio applications available for macOS. This allows you to use Dante Virtual Soundcard with applications ranging from professional audio applications such as Logic, to media players such as iTunes.

## Choosing Dante Virtual Soundcard as your Audio Interface

---

Audio applications generally provide a mechanism for selecting the sound card that they will use. Before configuring the application to use Dante Virtual Soundcard as its audio interface, make sure you have started Dante Virtual Soundcard with the required settings (and in Windows, with the correct interface mode selected - ASIO or WDM).

### Choosing DVS as your Audio Interface - Windows

#### ASIO

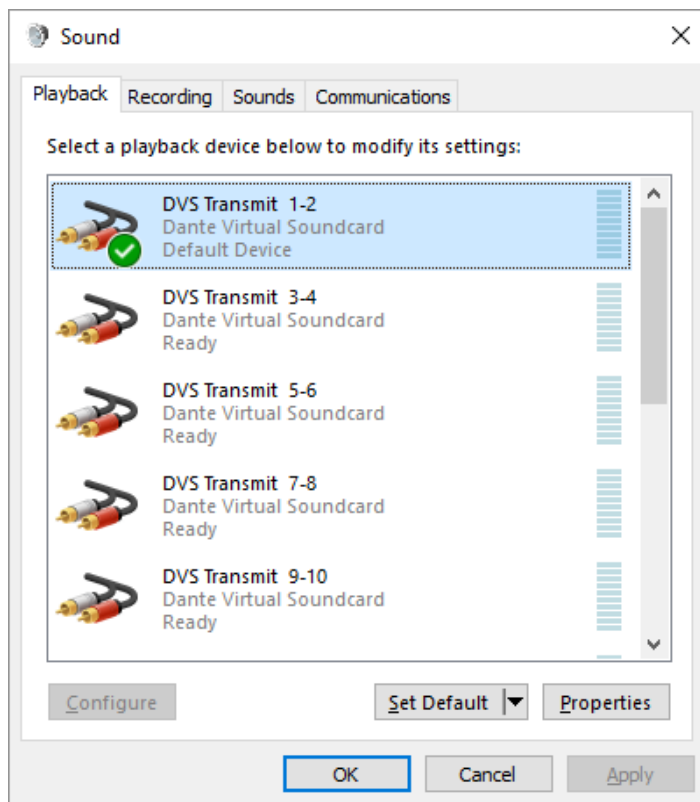
Select and configure Dante Virtual Soundcard as your audio interface from within the audio application. It should appear as 'Dante Virtual Soundcard' in the list of available soundcards. Note that if 'Dante Virtual Soundcard' does not appear in the list of available soundcards, it is either not running, or not operating correctly.

Use the [Options](#) button to configure options such as buffer size, latency and channel count.

#### WDM

Dante Virtual Soundcard supports 16 channels (8 stereo pairs) in WDM mode. Each stereo pair appears as an independent selectable audio device in any relevant Windows and supporting application dialogs.

*How Dante Virtual Soundcard appears in the Windows Sound Playback options*



### Windows Audio Shared Mode

Windows allows applications to share audio interfaces.

If applications with differing sample rates share an audio interface, their sample rates are automatically brought into line by Windows, so it can mix the audio streams. This will result in sample rate conversion on one of the audio streams, which can adversely affect audio quality.

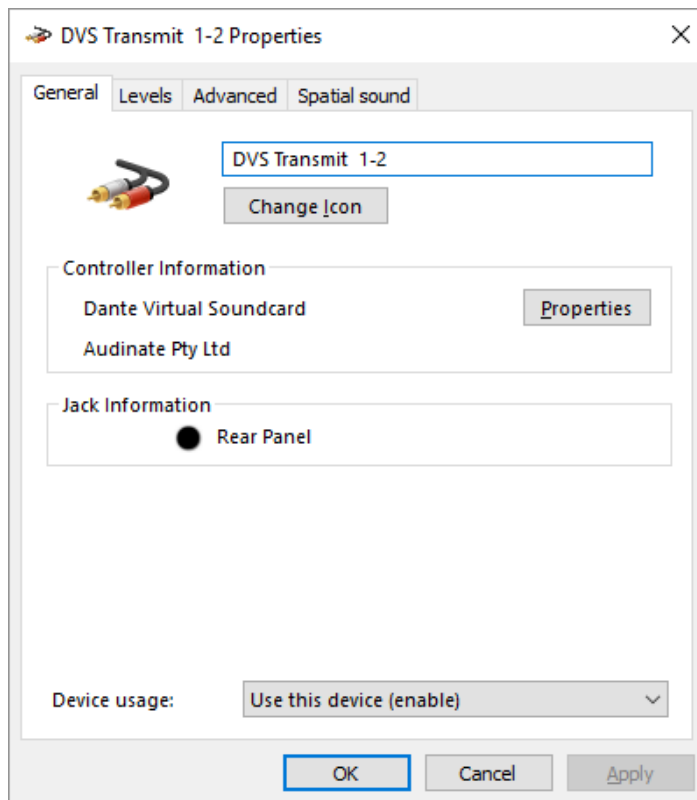
To prevent Windows performing sample rate conversion on Dante Virtual Soundcard audio, the 'Shared Mode' default format for all Dante Virtual Soundcard channels must match the sample rate currently selected on the Dante Virtual Soundcard control panel.

In **Windows 10 and 11**, you will need to manually specify the default shared mode format for the device.

1. Open the Windows Sound options dialog (**Start > Control Panel > Sound**).
2. With the Playback tab selected, double-click the 'DVS Transmit 1-2' entry in the interface list.

*The 'DVS Transmit 1-2 Properties' dialog is displayed.*





3. Select the Advanced tab.
4. Set the Default Format to the required setting.
5. Click OK.
6. Repeat for all Dante Virtual Soundcard stereo pairs.
7. Repeat again for the Recording tab.
8. Click OK.

## Choosing DVS as your Audio Interface - macOS

You will need to set Dante Virtual Soundcard as the system's default soundcard in order to use applications like iTunes. More sophisticated audio applications such as Logic allow you to select the soundcard from within the application itself.

For applications which allow a soundcard to be selected, choose 'Dante Virtual Soundcard' from the list of available soundcards for both input and output. Note that if 'Dante Virtual Soundcard' does not appear in the list of available soundcards, it is either not running, or not operating correctly.

For applications which do not have a mechanism to select a soundcard from within the application, the System Preferences panel must be used to configure the default sound output and input settings as shown in the following screens:

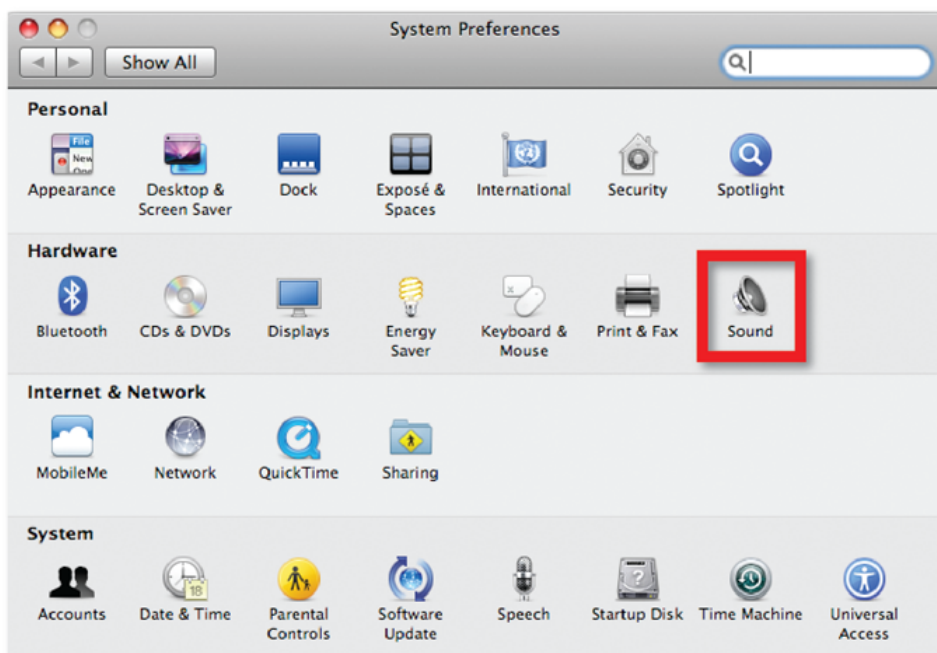


Figure 3 - Configuring Sound on macOS - System Preferences

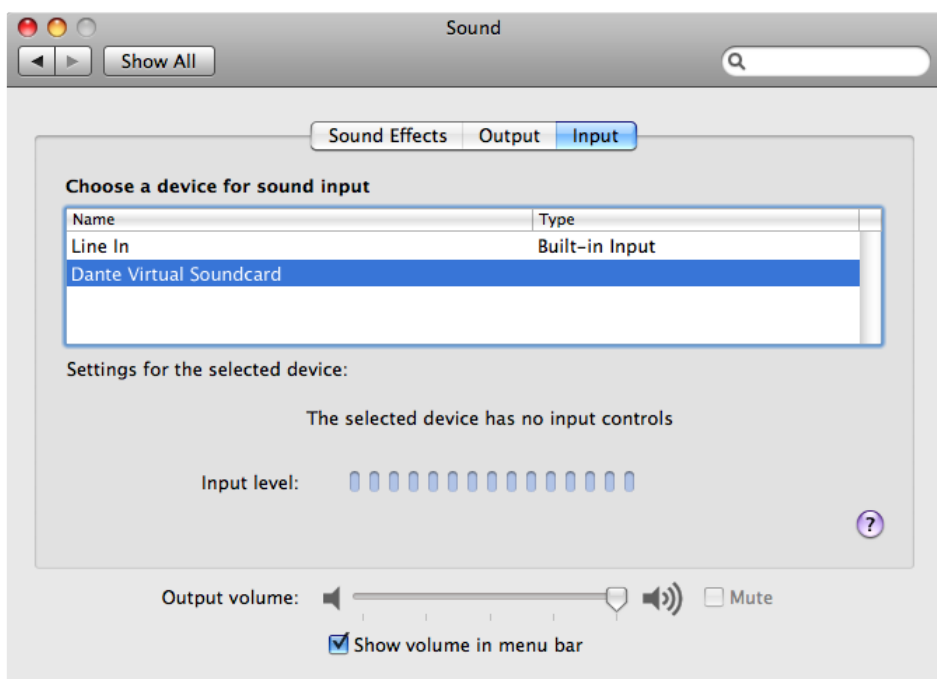


Figure 4 - Configuring Sound on macOS - Input

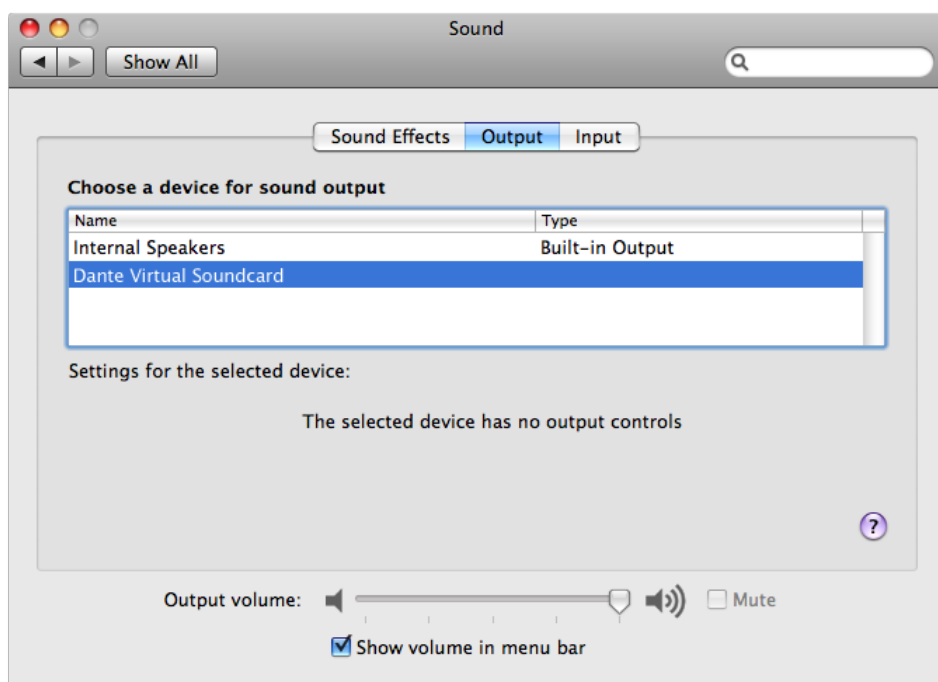


Figure 5 - Configuring Sound on macOS - Output

The system sound effects should be sent to the built-in speakers rather than Dante, so that they don't interfere with the audio travelling over the network:

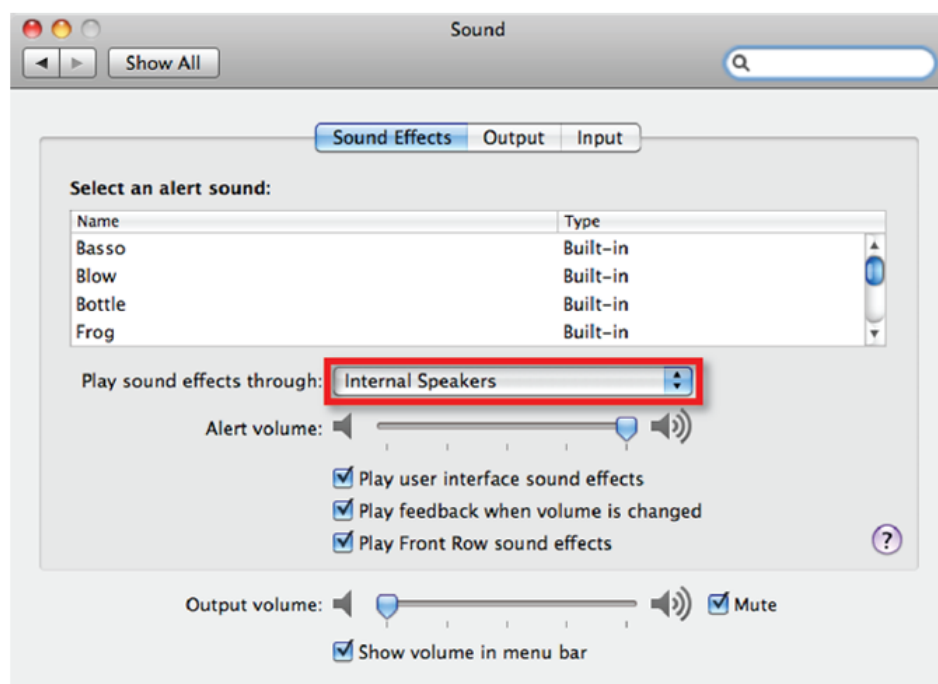


Figure 6 - Configuring Sound on macOS - Internal Speakers

# Troubleshooting

## Possible Messages on Startup

Error Message	Meaning & Actions
System clock has gone backwards since DVS was last run	<b>Meaning:</b> The standard licensing mechanism used in Dante Virtual Soundcard checks whether the system clock has been set backwards to detect deliberate attempts at license fraud. <b>Action:</b> If you still have a valid Dante Virtual Soundcard License ID, you can uninstall Dante Virtual Soundcard, then reinstall and use your License ID to reactivate.
The DVS Manager service is not available, please try again in a few minutes	<b>Meaning:</b> On some computers, system services may take a long time to start when the computer is rebooted and you may be able to log in and open the Dante Virtual Soundcard Control Panel before all required services are available. <b>Action:</b> To resolve this, please wait a few minutes to allow the services to start and try again. The Dante Virtual Soundcard Control Panel should then start normally.
Dante Virtual Soundcard has detected that Dante Via is currently active on this computer. Please stop Dante Via before launching Dante Virtual Soundcard. (1280)	<b>Meaning:</b> Dante Virtual Soundcard and Dante Via cannot be used simultaneously. <b>Action:</b> Stop Dante Via before starting Dante Virtual Soundcard.

## Possible Messages During Operation

Error Message	Meaning & Actions
The DVS Manager service is not available, please try again in a few minutes	<b>Meaning:</b> On some computers, system services including the DVS Manager service may not recover from a System Suspend or Hibernate. <b>Action:</b> To resolve this, please exit Dante Virtual Soundcard and restart.

Error Message	Meaning & Actions
Connecting to the DVS Manager. Please wait...	<p><b>Meaning:</b></p> <p>The Dante Virtual Soundcard Manager service is stopped or unavailable, and the control panel is attempting to reconnect to it.</p> <p><b>Action:</b></p> <p>If automatic reconnection doesn't occur within 15 seconds, restart the Dante Virtual Soundcard Manager service, or exit and restart Dante Virtual Soundcard.</p>

## Possible Messages During Licensing

Error Message	Meaning & Actions
The licensing server couldn't be found	<p><b>Meaning:</b></p> <p>Dante Virtual Soundcard could not find the IP address of the Audinate Licensing Server. Likely to be caused by local network DNS failure or Proxy settings.</p> <p><b>Action:</b></p> <p>Wait and try again in case the issue is temporary. If the problem persists please talk to your local IT support staff.</p>
Communication error while contacting server	<p><b>Meaning:</b></p> <p>Dante Virtual Soundcard could not make a network connection to the Audinate Licensing Server. Likely to be due to either network or local proxy settings.</p> <p><b>Action:</b></p> <p>Wait and try again in case the issue is temporary. If the problem persists please talk to your local IT support staff.</p>
DVS is not licensed for use via terminal server	<p><b>Meaning:</b></p> <p>Dante Virtual Soundcard is not supported and will not activate on a Windows PC with Terminal Services (Remote Desktop) running.</p> <p><b>Action:</b></p> <p>Deactivate Terminal Services on the PC.</p>
DVS is not licensed for use on virtual machines	<p><b>Meaning:</b></p> <p>Dante Virtual Soundcard is not supported and will not activate if it is installed on a Virtual Machine.</p> <p><b>Action:</b></p> <p>You will need to install Dante Virtual Soundcard on a computer with a standard Windows or macOS operating system install.</p>

Error Message	Meaning & Actions
The license server has no knowledge of license ID xxxx...	<b>Meaning:</b> The License ID that has been entered is not a known Dante Virtual Soundcard License ID. <b>Action:</b> Check to make sure a valid Dante Virtual Soundcard License ID has been entered, and not a different product serial number.
The license has been activated too many times	<b>Meaning:</b> A Dante Virtual Soundcard License can only be activated a limited number of times, and this activation limit has been exceeded.

## Further Dante Troubleshooting

The [Dante Controller User Guide](#) and the [Dante FAQs](#) contain further information regarding troubleshooting issues you may be experiencing with Dante software and network configuration and operation.

On Windows, if you are experiencing latency problems or dropped audio (especially at higher sample rates), you may need to adjust Flow Control and Interrupt Moderation for your network adaptor. See [www.audinate.com/faq/how-can-i-tune-windows-pc-best-audio-performance](http://www.audinate.com/faq/how-can-i-tune-windows-pc-best-audio-performance) for more information.

# Index

---

## A

About Tab 36  
ASIO 37  
ASIO Latency 26  
Audio Channels 26, 30  
Audio Formats 22  
Audio Interface 38

## B

Bit depth 23  
Bonjour 10  
Buffer Size 26

## C

Changing Settings in macOS 28  
Changing Settings in Windows 23  
Choosing an Audio Application 37  
Clear Domain Credentials 35  
Configuring Dante Virtual Soundcard 21  
ConMon 10  
Connecting to the DVS Manager 44  
Control and monitoring 10  
Core Audio 37

## D

Dante audio channels 27, 30  
Dante Controller 9  
Dante Discovery 10  
Dante Via 43  
Dante Virtual Soundcard as your Audio Interface 38  
Dante Virtual Soundcard License 15  
Device Lock 33  
Device Lock Tab 32  
Device Name 21  
Domains Tab 34  
Downloading Dante Virtual Soundcard 12  
Dropped audio 45

## E

Encoding 22, 26

## F

Firewall Configuration 10  
Flow Control 45

## I

Installing Dante Virtual Soundcard on macOS 13  
Installing Dante Virtual Soundcard on Windows 12  
Installing the Dante Virtual Soundcard 12  
Interrupt Moderation 45

## L

Latency 27, 30  
Latency problems 45  
License 17  
License ID 15  
Licensing Tab 32  
Locking 33  
Locking Dante Virtual Soundcard 21

## M

Managing your Dante Virtual Soundcard License 17  
Maximum Channels 27, 30  
Memory 9

## N

Network Interface 27, 31  
Network Status 28, 31

## O

Operating System 10  
Options 25

## P

PIN 33  
Possible Messages During Licensing 44  
Possible Messages During Operation 43  
Possible Messages on Startup 43  
Processor 9  
Pull-up/down 22

---

## S

Sample rate 23  
Sample Rate 22  
sample rate conversion 39  
Settings Available in Dante Controller 21  
Shared mode 39  
Shared Mode 39  
Start / Stop 24, 29  
Starting the Dante Virtual Soundcard Control  
Panel 14  
Storage 9  
Supported Audio Formats 22  
Supporting Services 10  
System Requirements 9

## T

The DVS Manager service is not  
available 43  
Troubleshooting 45

## U

Uninstalling Previous Versions 13  
Unlocking 34  
Upgrading a Single Machine License to a  
Transferable License 17

## W

WDM 37-38  
Windows 23  
Windows Drivers 10