Dante Via

User Guide

Document version: 1.3

Published: Thursday, 3 March 2016

Copyright

-2-

Legal Notice and Disclaimer

Software Licensing Notice

Audinate distributes products which are covered by Audinate license agreements and third-party license agreements.

For further information and to access copies of each of these licenses, please visit our website:

www.audinate.com/software-licensing-notice

Contents

About Audinate

Audinate revolutionizes AV systems to enable its customers to thrive in a networked world. Audinate's patented Dante media networking technology has been adopted by the leading manufacturers in the professional audio/visual industry.

Dante is used extensively for live performance events, commercial installation, broadcast, recording and production, and communications systems.

Audinate offices are located in US, UK and Australia. Visit www.audinate.com for the latest news and information on the company.

Dante is Digital Media Networking Perfected.

About Dante

Audinate's Dante technology provides high performance digital media networking that meets the quality and performance requirements of professional live sound, AV installations and broadcast and recording systems.

Designed to fully exploit the capabilities of today and tomorrow's networking equipment, Dante provides media transport mechanisms that eliminate many traditional audio network design restrictions. Dante makes it easy to set up robust, flexible digital audio networks with virtually unrestricted performance. A Dante network can be designed with mixed Gigabit and 100Mbps network speeds, simultaneously support audio with different sample rates and bit depths, and even allow the design of network zones with different latencies.

Dante is built on Internet Protocols — not just Ethernet. Because it uses standard IP over Ethernet, Dante is capable of running on inexpensive off-the-shelf computer networking hardware, and with the use of standard QoS can share installed networks with other data and computing traffic.

Dante provides sample-accurate synchronization and can deliver the very low latency required by professional audio. Dante's network-centric, audio-independent approach to synchronization allows perfectly synchronized playout across different audio channels, devices and networks, even over multiple switch hops.

Dante makes networking a true plug-and-play process, allowing automatic device discovery and system configuration. Dante-enabled devices will automatically setup their network configuration and advertise themselves and their channels on the network, reducing complicated, error-prone set-up procedures. Instead of 'magic numbers', networked devices and their input and output signals can be named to make sense to the user.

Dante is not restricted to allowing configuration and transmission of audio channels. Dante also provides mechanisms to send or receive control and monitoring information across the Dante IP network, including equipment-specific messages and control specified and developed by a particular manufacturer.

With its strong foundations and links to current and evolving network standards, Dante is able to deliver a level of future proofing otherwise unavailable in other types of digital audio transportation. Continued evolution of its networking technology is an integral part of the Dante roadmap.

Dante technology is available in ready-to-implement hardware and software products, reference designs and development APIs.

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

Overview

What is Dante Via?

Dante Via is a software application that allows you to quickly and easily connect high-quality audio between audio-capable hardware devices and software applications, both locally and across a Dante network.

Dante Via:

- Provides Dante audio connectivity between all audio-capable devices and software applications on your computer. This means you can easily route audio internally around your computer without having to individually configure each device or application, and you can independently route audio to and from audio-capable software that doesn't natively support audio routing. For example, using Dante Via you can route iTunes to multiple external soundcards simultaneously.

- Exposes to the Dante network all available hardware and software audio sources available on your computer. This means you can share your audio with other users and devices on the Dante network. You can easily specify exactly which devices and applications are exposed to the network, and which aren't.

- Displays all shared audio sources on or connected to other Dante Via-installed computers on the network. This means you can route audio from other computers and devices to wherever you want on your own computer, or to audio devices connected to your computer.

- Displays remote (not computer-connected) Dante-enabled audio devices on the network, such as Dante-enabled mixing consoles. Using Dante Via you can route audio from remote Dante devices to your own destinations. In combination with Dante Controller, you can also 'push' audio to remote devices.

- Enables computer-only Dante networks (does not require a Dante hardware clock).

Dante Via automatically scans the computer for running audio-capable software applications, and connected audio-capable hardware devices, and displays them as audio sources and/or destinations in the user interface.

Note: On Windows, software applications must be actively playing or recording in order to appear in the Dante Via interface (more information).

Note: On OS X, software destinations are not displayed (more information).

What is a Dante Network?

A Dante network is basically any IP over Ethernet network to which two or more Dante devices - including any computers running Dante Via - are connected. (A Dante network on which there is only one Dante device isn't technically a 'network' - however you can use Dante Via to route audio internally in your computer.)

'IP over Ethernet' is a networking model that uses Ethernet technology for the physical network, and the Internet Protocol for controlling how data is moved around the network. Dante audio can be described as 'Audio over IP'.

Dante networks can be:

- Dedicated - a network to which only Dante devices are connected (often used for recording studios, live sound and professional audio installations) - or:

- Shared between Dante and other network applications, such as office data, email, file management, VoIP telephony, or virtually any other type of network traffic. Standard networking features such as QoS (Quality of Service) can be used to ensure that Dante audio gets priority if required, to maintain perfect audio synchronization - however it is not usually required for fast (Gigabit) networks.

What can you do with Dante Via?

Using Dante Via, you can:

- Route audio independently between software applications and/or hardware devices on or connected to your computer

- Share your audio with other users and devices on the Dante network

- Route audio from network sources to your own computer or peripherals

- Aggregate audio from multiple sources to one or many destinations

- Distribute audio to multiple destinations simultaneously

- Push audio to remote Dante-enabled devices (requires Dante Controller)

Extend your Audio

Dante Via enables and simplifies countless audio routing configurations.

With Dante Via, you can quickly and easily transmit any audio to a destination on the Dante network - for example, you could send USB microphone output from a hall or classroom to an amplifier and speakers in an overflow room.

In this example, Dante Via is exposing a USB microphone to a Dante network. Dante Controller is then used to push the Via audio to a Dante-enabled amplifier in another room, allowing people to hear sound from the microphone.
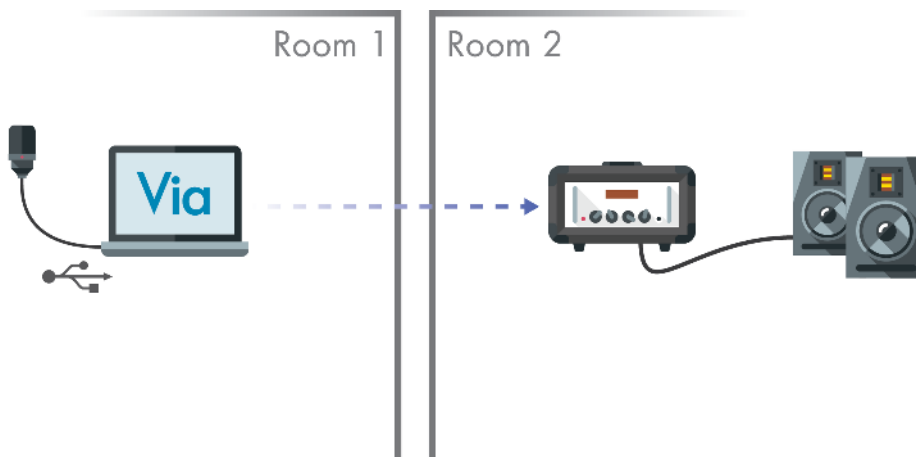
Aggregate Multiple Audio Sources

You can easily aggregate audio from multiple source types and send it to one or more destinations, without the need for a mixing console.

For example, you could simultaneously send stereo mixes from a USB soundcard and a Firewire soundcard to a recording application.

You could also expose the recording application on the Dante network for remote monitoring.
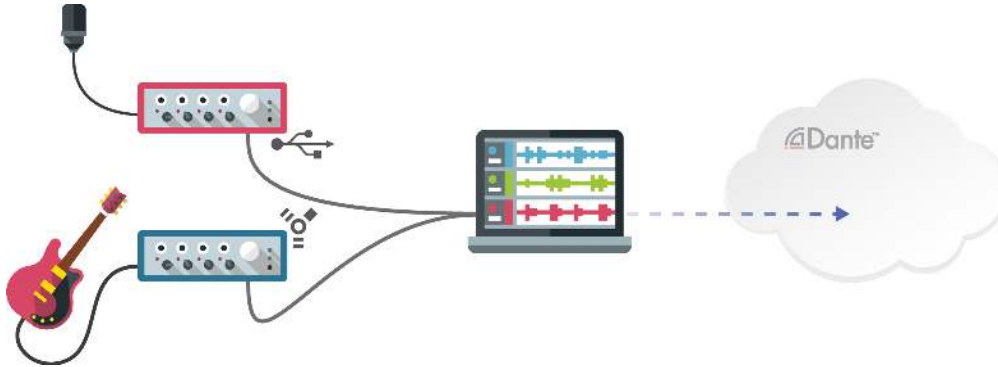
Send Audio Simultaneously to Multiple Destinations

Some audio sources, particularly consumer software applications such as iTunes or Windows Media Player, do not allow you send audio to multiple destinations.

Dante Via overcomes this limitation, so you can send any audio from any application or device to multiple locations at once.

This means, for example, that you could send iTunes to two separate soundcards - one for monitoring, and one for amplification.

Monitor Multi-channel Audio

Using Dante Via and Dante Controller, you can monitor individual channels on a networked multi-channel device, such as a Dante-enabled mixing console.

To do this, first expose your chosen monitoring device (such as a pair of USB headphones) to the Dante network, by selecting 'Enable Dante' in the headphones destination pane in Dante Via.

Then launch Dante Controller. Your headphones will now appear as Dante channels in Dante Controller, nested under your computer name.

Using Dante Controller, you simply send individual channels from the mixing console to your headphones, just like any other Dante device.
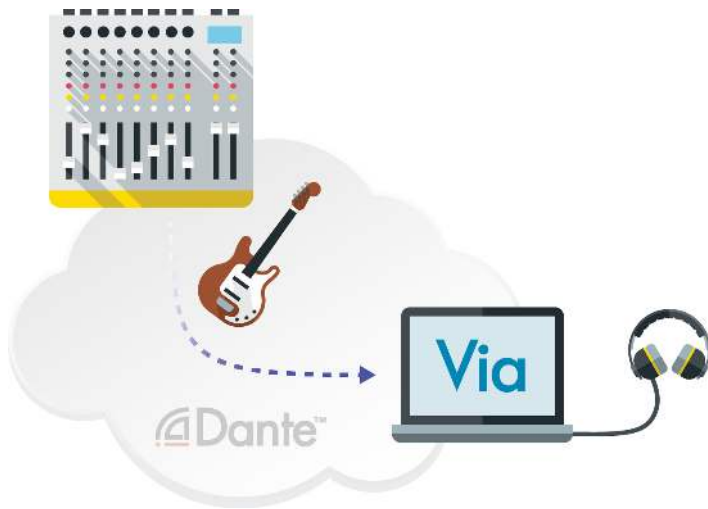
Specifications

Network Audio	
Network speed	100 /1000 Mbps Ethernet
Network Transmit flows	16 (unicast or multicast) - up to 4 channels per flow
Network Receive flows	16 (unicast or multicast) - up to 4 channels per flow
Latency	From 10ms (excluding auxiliary signal paths)
Sample rate	48 kHz
Sample bit depth	24 bit
Audio Interface	
Software channel support	Up to 2 x 2 channels
Hardware channel support	Up to 32 x 32 channels
Total channel support	Up to 48 x 48 channels
Application support	Up to 8 application or mix audio connections

Network speed

Dante Via supports Ethernet networks that use 100 Mbps and 1000 Mbps (Gigabit) infrastructure. Dante generally performs better on Gigabit networks. Quality of Service (QoS) can be used to improve Dante performance on slower networks that are shared with non-Dante applications.

Network Transmit / Receive flows

'Flows' are audio streams of up to 4 channels that are used to transport audio across a Dante network (outside the host computer). Grouping channels together into flows conserves bandwidth.

16 flows of up to 4 channels allows the transport of up to 64 bidirectional channels simultaneously across a Dante network.

If you exceed the number of supported flows, you will see an 'Insufficient Resources' error dialog.

Latency

Latency is a delay that digital audio devices and applications introduce into an audio stream as a result of (or to allow for) the processing of audio packets. Dante Via's internal latency is ~10ms. However, auxiliary signal paths (for example, paths to USB-connected devices) will also add latency.

On Windows, adjusting the Performance Optimization slider in the Performance preferences will affect Dante Via's latency.

Sample Rate

Dante Via's native sample rate is 48 kHz. Sample rate conversion is performed automatically in both directions for locally-connected devices: Incoming audio is converted to 48 kHz, and outgoing audio is converted from 48 kHz to match the sample rate required by the destination device.

Remote (networked) Dante hardware devices must be set to 48 kHz to be supported by Dante Via.

For software applications, sample rate conversion is performed automatically by the operating system.

Sample Bit Depth

Dante Via's native bit depth is 24-bit - however, Dante Via converts incoming audio to 24-bit automatically.

Software Channel Support

Dante Via supports 2 x 2 channels for software applications.

Hardware Channel Support

Dante Via natively supports up to 32 x 32 channels for hardware devices (although more channels can be subscribed using Dante Controller).

Total Channel Support

Dante Via supports a total of 48 source channels and 48 destination channels. This means that you could theoretically run 24 stereo sources into 24 stereo destinations simultaneously, on a sufficiently-powerful computer.

However, audio mixes (including the 'default mix') require their own additional channels, which deduct from the total supported source channel count.

On OS X, the 2 Channel Application Input occupies 2 source channels.

Individual computer performance and tuning can affect the number of channels that are practically supported.

Application Support

The number of Dante Via interfaces to software applications is limited to 8 (due to the extra processing required for software connections). Similarly, audio mixes (including the default mix) are limited to 8 simultaneous mixes.

Minimum System Requirements

- 64-bit OS X 10.9.5 or later
- 64-bit Windows 7 (SP1), Windows 8.1 or Windows 10
- Intel or AMD Quad-core CPU or above
- 4 GB RAM
- 1 GB storage
- 1Gbps wired network interface / adaptor (Wi-Fi is not supported)
- 1Gbps network switch
- Active Internet connection *

* Dante Via regularly connects to the Audinate licensing server to validate its license and refresh its activation. See Licensing and Activation for more information.

Important: Device drivers for all installed and locally-connected audio-capable devices must be up to date, and any residual legacy device drivers must be fully removed.

Concepts

Sources and Destinations

What is a 'source'?

In Dante Via, a source is any hardware device or software application that can add audio to the computer / network system.

Sources can be physically in the computer, connected to the computer, or connected to the Dante network.

Hardware sources (devices) include:

- Internal (built-in) soundcards
- External (e.g. USB or Firewire) soundcards
- Internal and external microphones
- USB headsets
- Video cameras with built-in microphones
- Dante audio devices (such as mixing consoles)
- Hardware synthesizers, and other electronic instruments
- Any Dante Via-installed computers on the Dante network
- 'System audio' (the internal audio mix that the computer would usually play to the speakers)

Software sources (applications) include:

- iTunes®
- Skype®
- Digital Audio Workstations (Cubase®, Pro Tools®, GarageBand® etc.)
- Media players (VLC®, Spotify®)
- Web browsers
- Any other software applications that produce audio (such as games, Powerpoint®, email clients etc.)

Devices and applications that can add audio to the system and receive audio from the system are both sources and receivers, so they appear in both lists.

> Q: Why is a microphone a 'source' and not a 'destination'?
> A: Microphones receive audio from the physical environment, but not from the computer / network system; they **add** audio to the system, which is why they are sources.
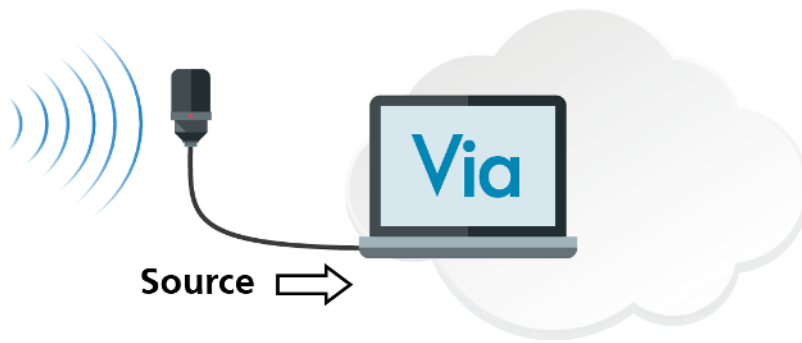
What is a 'destination'?

In Dante Via, a destination is any hardware device or software application that can receive audio from the computer / network system.

Receivers can be physically in the computer, connected to the computer, or connected to the Dante network.

Hardware receivers (devices) include:

- Loudspeakers
- Internal (built-in) soundcards
- External (e.g. USB or Firewire) soundcards
- Computer monitors with built-in speakers
- USB headsets
- Dante audio devices (such as mixing consoles)
- Any Dante Via-installed computers on the Dante network

Software receivers (applications) include:

- Digital Audio Workstations (Cubase, Pro Tools, GarageBand etc.)
- Other audio recording applications
- Skype

Devices and applications that can receive audio from the system and add audio to the system are both receivers and sources, so they appear in both lists.

> Q: Why is a loudspeaker a 'destination' and not a 'source'?
> A: Loudspeakers add audio to the physical environment, but not to the computer / network system; they **receive** audio from the system, which is why they are destinations.
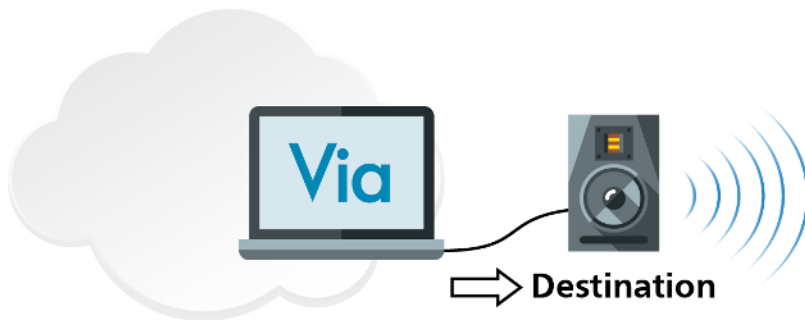
Devices and Applications

Local Audio Devices

Local Audio Devices are audio-capable hardware devices that are local to your computer - i.e. they are either internal, or directly physically connected to your computer.

Examples include:

- Internal (built-in) soundcards (referred to as 'Built-in Output' in OS X)
- External (e.g. USB or Firewire) soundcards
- Internal and external microphones
- USB headsets
- Desktop computer speakers
- Computer monitors with built-in speakers

More About Hardware Soundcards

Via Devices

Via Devices are other computers on your local area network on which Dante Via is installed and running.

Via Device names are taken from the host computer name.

If they have sources or destinations for which 'Enable Dante' is active, those resources will appear under the device name.

Dante Devices

Dante Devices are Dante-enabled hardware devices (such as mixing consoles and amplifiers) that are connected to your local area network.

Dante Devices must be set to 48 kHz sample rate in order to appear in the Dante Via user interface.

To 'push' audio to Dante Devices, you must configure the routing in Dante Controller.

Local Applications

Local Applications are audio-capable software applications, such as:

- iTunes
- Skype

- Digital Audio Workstations (Nuendo, Pro Tools, GarageBand etc.)
- Web browsers
- Other software applications that produce audio (such as games, Powerpoint®, email clients etc.)

Channel Support

Dante Via supports 2 channels for individual software applications. The number of applications that can be simultaneously supported is determined by the channel support and the computer specifications.

Application Visibility

It is recommended that you start audio applications *after* starting Dante Via.

OS X

In OS X, software applications do not appear in the Destinations list. To send sources to software applications in OS X, you must send them to the 2 Channel Application Input, and then configure the application to use Dante Via as the recording / input interface.

Windows

In Windows, software applications will not appear in either of the Local Applications lists (sources or destinations) until they are either playing audio (sources) or recording audio (destinations).

Note: It may also be necessary to select Dante Via as the input and/or output device in the application itself.

If when you start Dante Via a running audio application is not visible in the Dante Via UI, quit and then restart the audio application. You may also have to play or record audio using the application before it appears in Dante Via.

More About Hardware Soundcards

Windows

In Windows, ASIO hardware interfaces are not currently supported. This means that ASIO-only external soundcards are not compatible with Dante Via. However, most soundcards also support WDM (Windows Driver Model), so they can interact with Dante Via using WDM device drivers.

Note: Some soundcards with ASIO and WDM support may present fewer WDM channels than their full complement of physical channels.

External soundcards in WDM mode generally present in Dante Via as stereo channel pairs. For example, a WDM soundcard that presents 8 channels to Windows will typically appear in Dante Via as 4 stereo pairs.

Example

OS X

In OS X, hardware soundcards use CoreAudio, which is fully supported by Dante Via.

The Dante Via Interface

Licensing and Activation

Note: Activation requires an active Internet connection.

To open the Activation panel in OS X, from the Dante Via menu, select 'Activation'.

To open the Activation panel in Windows, select ⚙ > 'Activation'.

The Activation panel allows you to:

- Purchase a Dante Via license
- Activate Dante Via using an existing license
- Start a trial activation
- Deactivate an active installation of Dante Via

Purchase

The 'Purchase' button will take you to the Audinate website, where you can purchase a Dante Via license.

You can view your Dante Via licenses at the 'My Products' page on www.audinate.com.

To access your Products page:

1. Log in to www.audinate.com.
2. Click 'My Account' at the top right of the page.
3. Click 'My Products'.

Activate

The 'Activate' button allows you to log in to an existing www.audinate.com user account to activate an existing license, or enter a serial number that has been provided to you.

Start Trial

The 'Start Trial' button initiates a trial activation. You do not need an existing www.audinate.com user account to start a trial, you can create one as part of the process.

Trial activations last for 30 days, and are fully-functional. You can only use the trial option once per computer. When the trial period expires, to continue using Dante Via, you must purchase a full Dante Via license.

Deactivate

The 'Deactivate' button deactivates Dante Via for that computer, which allows you to reactivate Dante Via on a different computer (using the 'Activate' option).

Recovering a License

If you are unable to deactivate a Dante Via 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.

To access your Products page:

1. Log in to www.audinate.com.

2. Click 'My Account' at the top right of the page.

3. Click 'My Products'.

The license recovery information is in the 'My Dante Via Licenses' section.

Using Dante Via Offline

Dante Via 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, you must run Dante Via with an active Internet connection at least once every 30 days.

Please contact Audinate sales if you need to run Dante Via offline for extended periods.

The Dante Via Main Screen - OS X
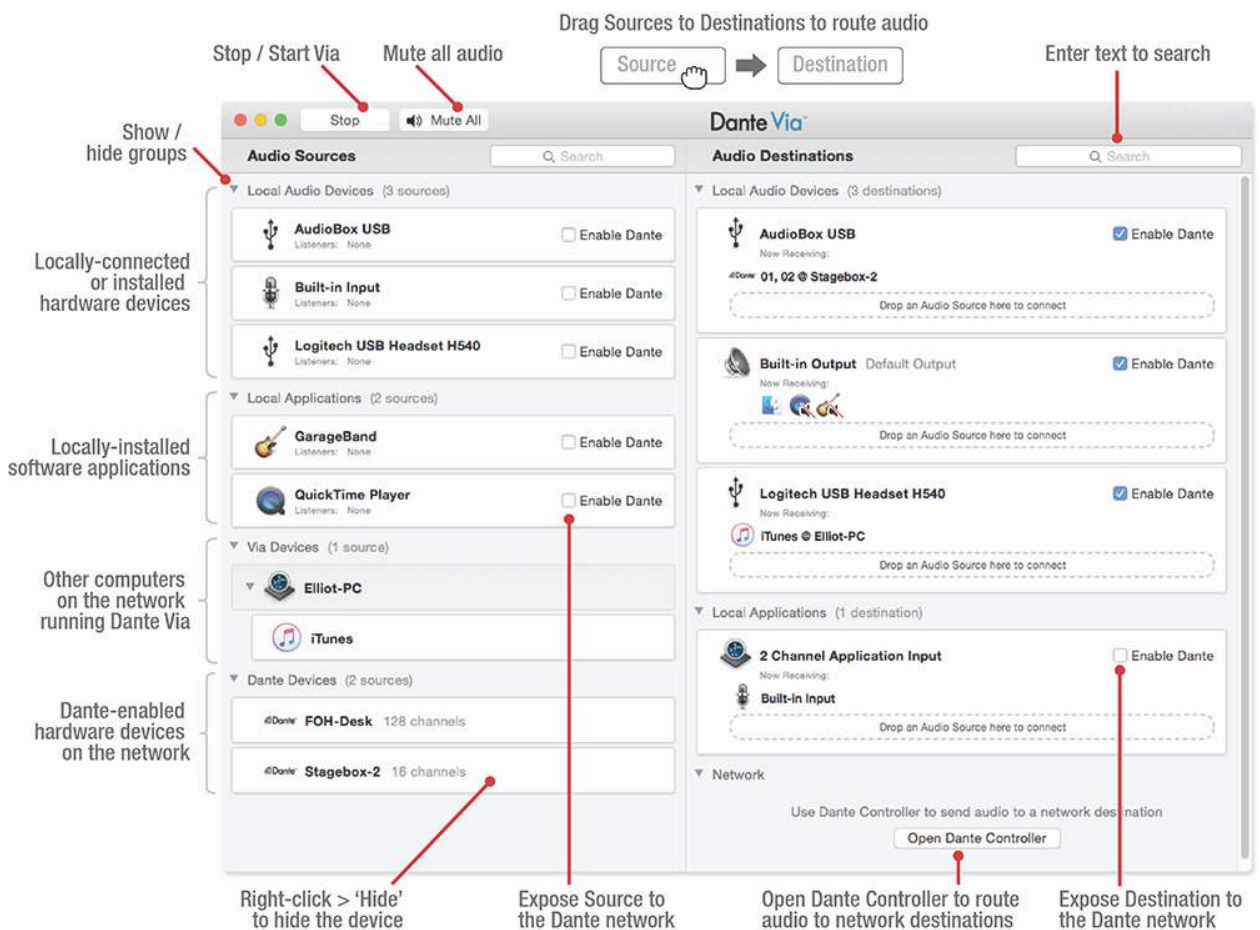
The Dante Via Main Screen - Windows

Drag Sources to Destinations to route audio

Right-click > 'Hide' to hide the device — Source ➡ Destination

Enter text to search | Mute all audio | Stop / start Via | Main menu

Show / hide groups

Locally-connected or installed hardware devices

Locally-installed software applications

Other computers on the network running Dante Via

Dante-enabled hardware devices on the network

Expose Source to the Dante network | Open Dante Controller to route audio to network destinations | Expose Destination to the Dante network

Searching for Resources

To search for a particular source or destination, type the first few letters of the resource name into the appropriate search field.

To clear the search, delete the text from the search field.

Preferences

General Preferences
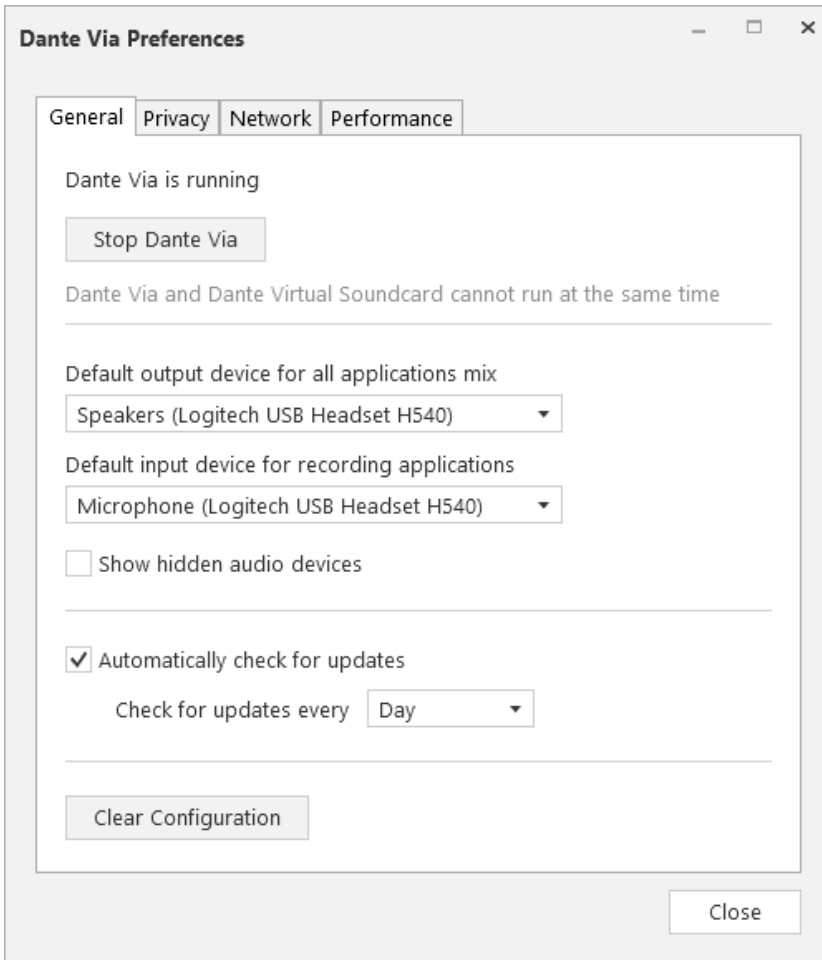
Stop / Start Dante Via

Use this button to turn the Dante Via 'engine' on or off.

When Dante Via is running, your computer will use Dante Via as the default audio interface (unless you have selected an alternative default device after installing Dante Via).

When Dante Via is not running, your computer will revert to the previous default hardware audio interface.

Default output device for applications

Use this menu to select the default local output device to which Dante Via will send newly-discovered application sources and the 'default mix'.

The selected default device is identified with the text 'Default Output' in the Destinations column.

Default input device for applications (Windows only)

Use this menu to select the default local input device which Dante Via will assign to newly-discovered application destinations.

Show Hidden Audio Devices

Reveals devices that have been hidden. To hide a device, right-click it and select 'Hide'.

Automatically check for updates

When selected, Dante Via will go online periodically to check if there is a new version available for download on the Audinate web server. Requires an active Internet connection.

Clear Configuration (Windows only)

Clears all audio routing, permissions and preferences. Requires administrator privileges for the computer. If Dante Via becomes unstable, this function can be used to reset it.

Privacy Preferences
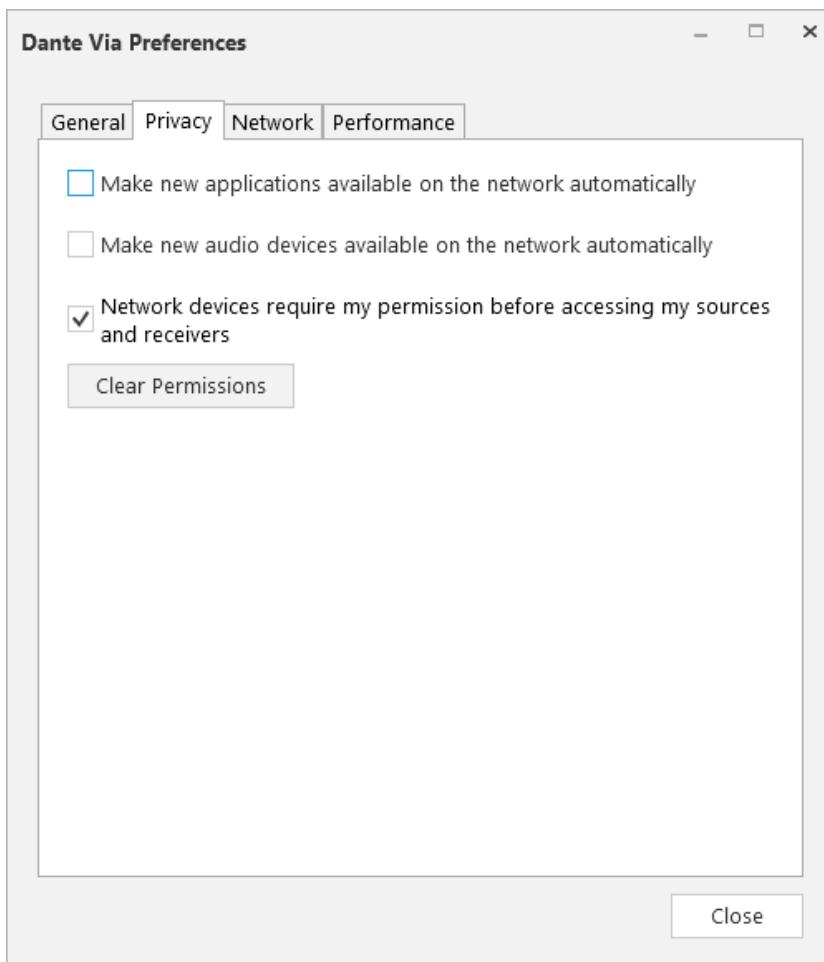
Make new applications available on the network automatically

When selected, software applications that are started in future will be automatically Dante-enabled (exposed to the network). Permission will still be required for new connections (based on the above settings).

When not selected, software applications that are started in the future will not be Dante-enabled by default.

Make new audio devices available on the network automatically

When selected, audio devices that are started in future will be automatically Dante-enabled (exposed to the network). Permission will still be required for new connections (based on the above settings).

When not selected, audio devices that are started in the future will not be Dante-enabled by default.

Network devices require my permission …

If selected, when any user first tries to connect to one of your sources, you will be presented with a pop-up dialogue asking you to allow or deny the connection (see Privacy and Permissions for more information).

If not selected, any user can connect to and receive audio from any of your Dante-enabled sources at any time, *without your permission*.

> **Important:** Be very careful with this option. Audinate accepts no responsibility for privacy issues that result from the use of this option.

Clear Permissions

Revokes all previously granted permissions. When clicked, any new connections to any of your sources will require your permission, and any existing connections will require permission to be re-granted.

Network Preferences

Dante Via Preferences   — ☐ ✕

General | Privacy | **Network** | Performance

Network Interface

Ethernet   ▼

IP Address: 10.12.0.167
MAC Address: 74:d4:35:19:f5:ae
Link: Connected

Close
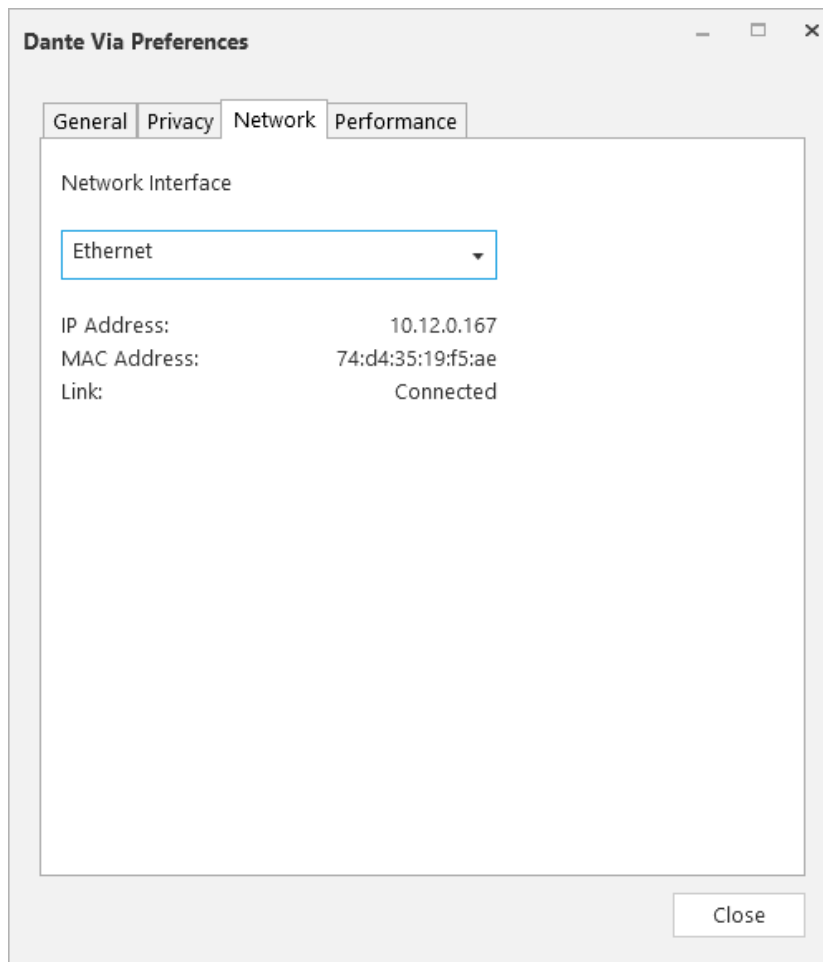
Network Interface

Use the Network Interface menu to select the physical Ethernet interface that Dante Via will use to connect to the local area network.

ℹ **Note:** The network interface used by Dante Via can be changed by other Dante applications, such as Dante Controller and Dante Virtual Soundcard.

Performance Preferences (Windows only)

Performance Optimization

Use this control to optimize Dante Via for your computer.

- Low: Use this setting if you are experiencing audio drop-outs or distortion.
- Default: This setting is suitable for most standard-use computers.
- High: Use this setting if you have a computer which is specifically tuned for audio and you require the lowest possible latency. If this setting causes audio problems, revert to default.
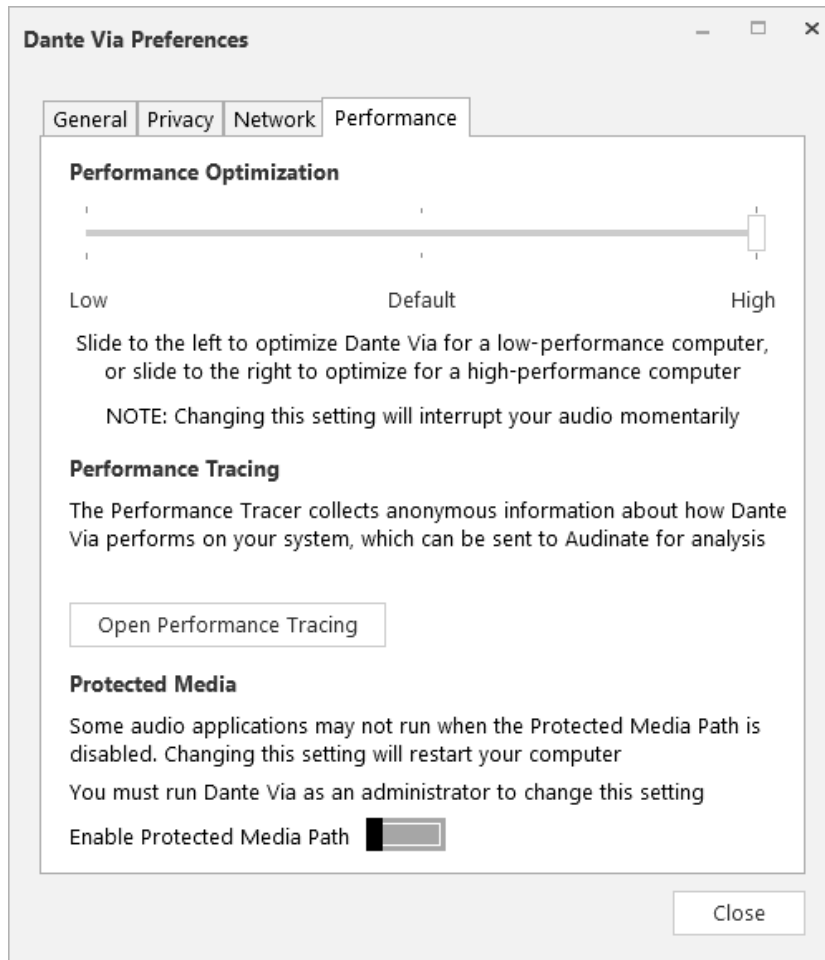
Performance Tracing

The Performance Tracer collects anonymous information about how Dante Via performs on your computer. You should only use this feature if you have been asked to by Audinate.

Protected Media

Dante Via disables the Windows protected media path when it is installed. The protected media path creates a secure environment for DRM (Digital Rights Management) content.

Use this control to enable protected media support for applications that require it (for example, video streaming apps such as the Netflix® Windows app). You must run Dante Via as an administrator in order to enable / disable protected media path.

See this troubleshooting topic for more information.   -27-

Note: Enabling the protected media path prevents the discovery of WDM applications. ASIO applications are unaffected.

Using Dante Via

Configuring Your Computer

When Dante Via is running, your computer will automatically switch to using Dante Via as the default audio 'device'. When Dante Via is not running, your computer will revert back to the audio device that was set as default in your operating system before Dante Via was installed (for example, the built-in soundcard).

If Dante Via is not the default audio device for your computer, the following icon will be displayed:

If you see this icon, in order to use Dante Via for audio, you will need to manually set Dante Via as the default audio device for your computer. Once set, your computer will remember the setting, and use Dante Via whenever it is running.

Manually Setting Dante Via as the Default Audio Interface

If your computer does not automatically switch to using Dante Via as the default audio device, you can configure it manually.

OS X

1. Open the System Preferences.
2. Click Sound.
3. In the Output tab, select Dante Via.
4. In the Input tab, select Dante Via.
5. Close the Sound preferences dialogue.

Windows

1. Open the Windows Control Panel.
2. Select Hardware and Sound.
3. Under 'Sound', click Manage audio devices.
4. In the Playback tab, select Dante Via Transmit and click 'Set Default' (or right-click > Set as Default Device).
5. In the Receive tab, select Dante Via Receive and click 'Set Default' (or right-click > Set as Default Device).
6. Click OK.

Will my audio routing change when I install Dante Via?

When it is first run, Dante Via will send your system sounds (operating system error sounds, email notifications etc.) and also any running audio-capable software applications that it finds to the default output device, which is typically the device you were using for audio before you installed Dante Via - so for most systems, you should notice no immediate change in your audio routing setup when you install and run Dante Via.

You can change the default output device in the general preferences. It will also send newly-discovered software applications to that device.

Network Connection

Dante Via requires that your computer is physically connected to an Ethernet network (Wi-Fi is not supported).

If your computer is not physically connected to an Ethernet network, Dante Via will display the following icon in the user interface:

Multiple network connections

To prevent audio transport problems, you should only have ONE active wired network connection to your Dante network while Dante Via is running.

If Dante Via detects more than one active wired connection to your Dante network, it will display the following icon:

Hover over the icon for more information.

Troubleshooting Volume Issues

If Dante Via is running and set as the default device, but you cannot hear audio, it may be because Dante Via is muted or turned down in the computer's audio preferences

To open the audio mixer in Windows, click the speaker icon in your system tray and select 'Mixer'.

To adjust volume controls in OS X, open System Preferences and click Sound.

Switching Computer Accounts

Important: Switching computer accounts (logging off and logging back onto the computer as a different user) will not necessarily reset audio routing for that computer (behavior will vary between operating systems).

This means that another user logging onto your computer may have audio routing in place that they are not aware of. On shared computers, you should always clear your audio routing before logging off, to prevent privacy issues for other users.

Connecting Sources to Destinations

To send a source to a destination, simply drag the source onto the destination.

The source will appear in the 'Now Receiving' field for the destination.

In the example below, the default device (the Logitech® USB Headset) is receiving audio from the Skype application.
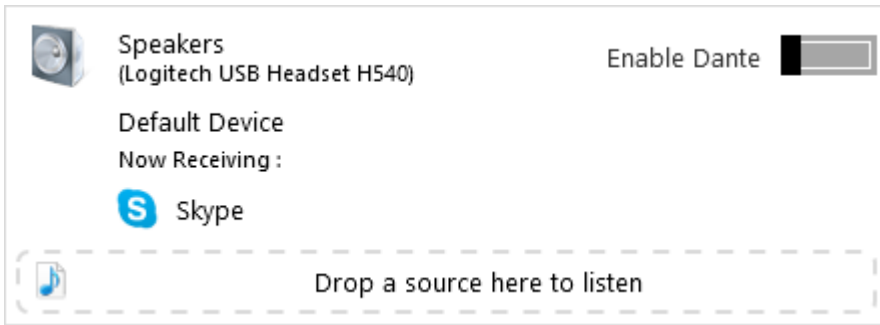
Sources can be sent to multiple destinations.

Inactive Sources

If a source is assigned to a destination but is not running, it will appear grayed out, in italic font.

When the source is restarted, it will resume playing audio to the destination.

Replace and Add

When you drag a source to a destination which is already receiving something, you can drop it into the 'Replace' field, or the 'Add' field.

Replace

When you drag a source to the Replace field for a destination, the new source will replace whatever was previously playing.

Add

When you drag a source to the Add field for a destination, the source will be added to the source that was already playing, automatically creating a mix.

In the example below, the default device is receiving an audio mix of Skype and Chrome.
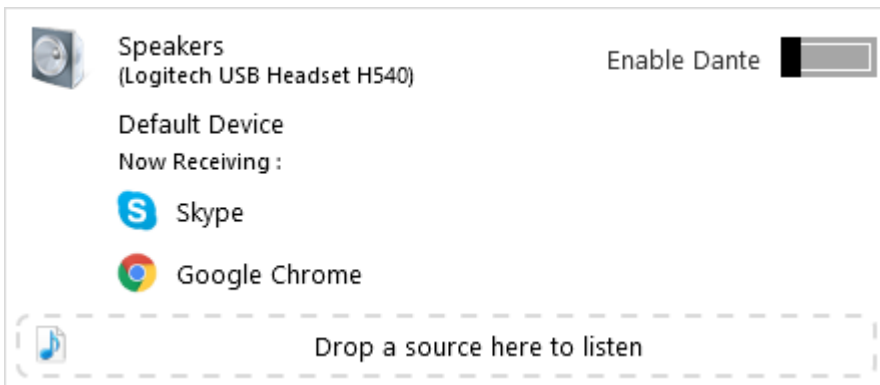
Removing Sources from Destinations

To remove a source from a destination, hover over the source icon in the 'Now receiving' area for the destination, and click the red **x** icon.
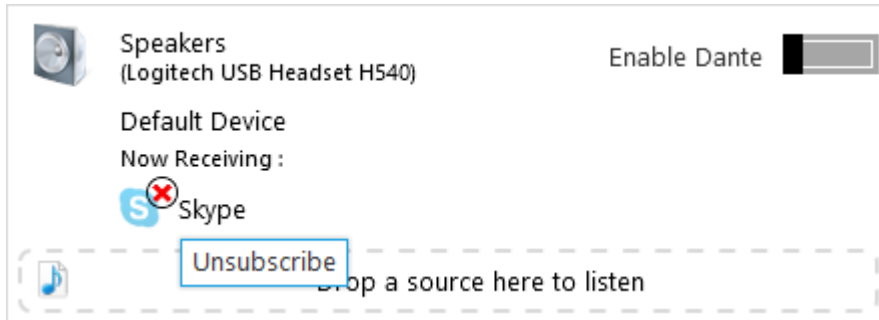

Muting Sources in the Default Fix

If no sources have been specifically sent to the default device (or when previous sources have been removed), it plays the default mix.

When the default mix is playing to the default device, sources cannot be removed, they can only be muted.

To mute sources in the default mix, hover over the source icon in the 'Now receiving' area for the default output destination, and click the speaker icon.

To un-mute a source, click the speaker icon again.
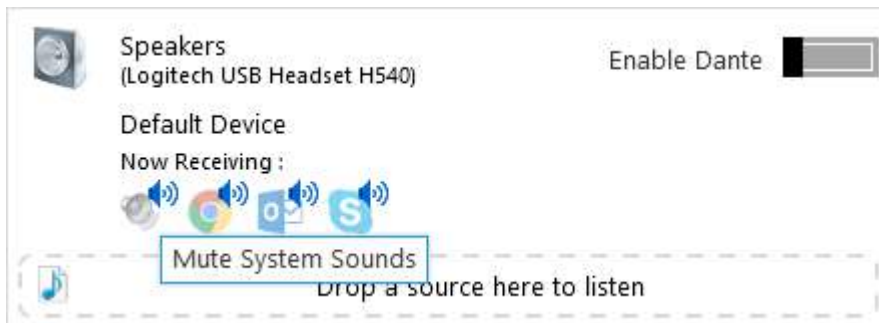
Removing Listeners from your Sources

Listeners are other network users who have routed one of your shared sources to one of their destinations.

There are 3 ways to remove a listener from one of your sources:

- Disable the 'Enable Dante' control for the source - this takes it off the Dante network.
- Use Dante Controller to unsubscribe the receiver from your source.
- Click 'Clear Permissions' in the Privacy Preferences (this revokes all previously-granted permissions).

Note: Using the first two methods, the listener will be able to reconnect to the source (assuming it is back on the network) without your permission, unless you revoke their permission using the 'Clear Permissions' button in the privacy preferences.

Built-in Inputs and Outputs

In OS X

In OS X, the 'Built-in Input' in the Sources list is typically the standard microphone jack built into the computer case.

The 'Built-in Output' in the Destinations list is typically the standard headphone jack built into the case.

In Windows

In Windows, hardware soundcards that are installed in the computer are referred to by their brand or model names. For example, if you have a Realtek® digital soundcard installed in your computer, it may appear as 'Realtek Digital Input' in the Sources list, and as 'Realtek Digital Output' in the Destinations list.

Default Devices

Default Devices are set in the General tab of the Preferences panel.

Default Output Device

The Default Output Device is the local hardware device to which Dante Via will send all newly-discovered application sources (i.e. software applications that can produce audio).

For example, if your Default Output Device is set as your computer speakers, when Dante Via detects a new software source, such as iTunes, it will automatically send iTunes audio to the computer speakers.

Dante Via will also send your system sounds to that device, assuming no other sources have been specifically sent to that device.

Note: System sounds is a default audio mix that includes audio such as operating system event notifications, email client notifications etc. The system sounds mix is identified by a speaker icon.

When Dante Via is first run, it sets its default output device to the device that is set as default in your operating system audio settings.

If you set your default output device to 'None', the system sounds will not play to any destinations.

Default Mix

The 'default mix' is a mix created automatically by Dante Via containing all software applications (except for ASIO applications in Windows). The default mix is automatically sent to the default output device.

If a specific source is sent to the default output device destination, it replaces the default mix. If that source is then removed, the default output device reverts back to playing the default mix.

To mute individual sources in the default mix:

1. In the default output device destination, hover over the source you want to mute.
2. Click the mute icon.

Default Input Device (Windows only)

In Windows, you can also set a default input device.

The Default Input Device is the local hardware device which Dante Via will assign to all newly-discovered application destinations (i.e. software applications that can receive audio).

For example, if your Default Input Device is set as your USB headset microphone, when Dante Via detects a new software destination, such as Skype, it will automatically send audio from the headset microphone to Skype.

When Dante Via is first run, it sets its default input device to the device that is set as default in your Windows audio settings.

Sending Audio to Software Applications

Dante Via supports 2 channels of audio for software applications.

In OS X

In OS X, software destinations, such as recording applications, aren't ever visible in the Dante Via UI.

To send sources to software applications in OS X, you must send them to the 2 Channel Application Input, and then configure the application to use Dante Via as the recording / input interface.

With 'Enable Dante' selected, the 2 Channel Application input presents as receive and transmit channels (named '2ch Virtual Soundcard') in Dante Controller.

Note: The 2ch Virtual Soundcard transmit channels visible in Dante Controller are used to provide the 'all running applications mix' (including system sounds) to the default output. The all running applications mix can be filtered by muting individual applications.

The receive channels will show a subscription present if a source is playing to the 2 Channel Application Input (but the source itself will not necessarily appear as transmit channels).

In Windows

In Windows, sources can be sent directly to software destinations, by dragging and dropping the source onto the destination. You can also use Dante Controller to directly subscribe a destination to a source.

See Software Application Visibility for information about application visibility in Dante Via.

Software Application Visibility

Windows

In Windows, software applications will not appear in the Local Applications areas until they are either actively playing audio (sources), or actively recording or receiving audio (destinations). Some applications (such as Skype) may also require that you select Dante Via as the default device(s) before they appear in Dante Via.

Note: It is recommended that you start audio applications *after* starting Dante Via.

If when you start Dante Via a running audio application is not visible in the Dante Via UI, quit and then restart the audio application. You may also have to play or record audio using the application before it appears in Dante Via.

OS X

In OS X, software applications appear automatically in the Dante Via interface as soon as they are started.

Exposing Sources and Destinations to the Dante network

To expose a source or destination to the Dante network, click the 'Enable Dante' control (a slider in Windows, and a checkbox in OS X).

Exposing Sources

When you expose a source to the Dante network, other Dante Via users on the network can send the audio to their own destinations, using Dante Via, or Dante Controller (see Using Dante Controller to Route Audio).

Note: A Dante Via resource must be set to 'Enable Dante' in order for it to appear in Dante Controller. Dante Via resources appear nested under the host computer name in Dante Controller.

When a user first tries to connect to one of your sources, you will be presented with a pop-up dialogue asking you to allow or deny the connection.

See Privacy and Permissions for more information.

When a destination successfully connects to one of your sources, it appears in the 'Listeners' field for the source. To stop the destination listening to your source, disable 'Enable Dante'.

Exposing Destinations

Exposing a destination to the Dante network allows you to send audio to it from a network source.

A network source can be:

- An application or audio device installed on another computer running Dante Via
- A physical device connected to a computer running Dante Via
- A remote Dante-enabled device

Note: Connecting a network source to one of your destinations will automatically expose the destination to the Dante network.

Using Dante Controller to Route Audio

All sources and destinations that are exposed to the Dante network become visible in Dante Controller.

Remote Dante-enabled devices (i.e. devices connected to a network switch, but not to a computer) appear as discrete devices, whereas software applications and audio-capable hardware peripherals appear as transmit and/or receive channels for the computer that they are installed on or connected to.

Routing audio between Dante Via resources in Dante Controller is done in the same way as audio routing for Dante-enabled devices. See the Dante Controller user guide for more information.

To launch Dante Controller from the Dante Via user interface, click the 'Open Dante Controller' button in the Network section.

▲ Network

To send audio to a network destination, you must use Dante Controller

Open Dante Controller
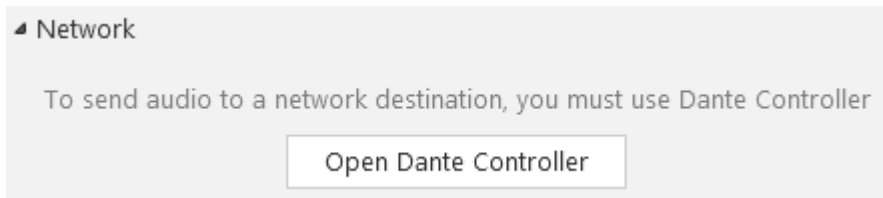
Privacy and Permissions

By default, Dante Via will not allow another users to connect to one of your Dante-enabled sources without your permission. When another user first tries to connect to one of your sources, you'll be presented with an 'Access Control Request' pop-up dialog asking you to allow or deny the connection.

ACCESS CONTROL REQUEST

Device **yuki-win10** is trying to access **Google Chrome**. Do you want to allow access?
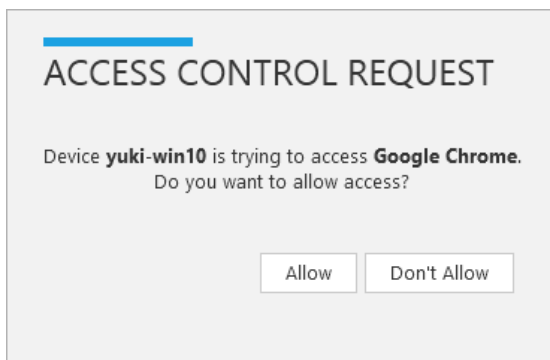
Allow   Don't Allow

- If you click 'Allow', the connection will be completed, and the user will receive audio from your source.
- If you click 'Don't Allow', the connection will be rejected, and the user will not receive any audio from your source.

Permissions are persistent across sessions: If you allow a connection for any user, they will be able to connect to the same source as many times as they like, even if Dante Via and/or either computer is stopped and restarted.

To revoke all existing permissions, go to Preferences > Privacy, and click 'Clear Permissions'. This will mean that any new connections (even previously allowed connections) will require your permission, and any existing connections will require permission to be re-granted.

Mute All

Click the Mute All button to mute audio from all your sources, and mute audio to all your receivers.
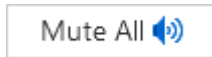
Mute All 🔊

Click it again to un-mute all audio.

Channel Mapping

Most consumer audio applications are stereo, with two channels of audio – left and right. When Dante Via pipes audio between applications, by default it connects left outputs to left inputs, and right outputs to right inputs.

Dante Via supports 2 channels for software applications.

For hardware devices with more than two channels, Dante Via connects channels sequentially - 1 to 1, 2 to 2, 3 to 3 and so on. More specific channel routing can then be done using Dante Controller if required.

In Windows, multichannel WDM devices may present as groups of stereo pairs - see More About Hardware Soundcards for more information.

Audio Format

Dante Via's native audio format is 24-bit audio at 48 kHz sample rate.

For locally-connected devices, Dante Via converts incoming audio 48 kHz, and converts outgoing audio to match the sample rate required by the destination device.

To be supported by Dante Via, networked Dante-enabled hardware devices must be set to 48 kHz (with no sample rate pull-up).

Latency

Dante Via's base latency is ~10 milliseconds.

However, auxiliary devices such as locally-connected USB peripherals may also introduce their own latency.

For more information about latency, see the Dante Controller user guide.

Stopping and Starting Dante Via

To stop or restart Dante Via, use the button at the top of the main user interface, or the button in the General tab of the Preferences window.

Dante Virtual Soundcard

Dante Via and Dante Virtual Soundcard cannot be used at the same time.

To use Dante Virtual Soundcard, you must first stop Dante Via, and vice-versa.

Troubleshooting

Licensing and Activation

I don't have a license key

Usually, you shouldn't need a license key - if you bought Dante Via through the Audinate website (www.audinate.com), you can activate Dante Via using your audinate.com registered email address and password.

When you first start the application, just click 'Log in with Audinate.com account' and then enter your audinate.com credentials.

If you didn't buy Dante Via through the Audinate website, you should have been provided with a license key by your supplier.

I activated Dante Via but the user interface is empty

This usually indicates that Dante Via is not activated. Use the Activation panel to activate Dante Via.

- To open the Activation panel in Windows, click the gear icon ⚙ to open the main menu , and select Activation.
- To open the Activation panel in OS X, go to the Dante Via menu > Activation.

If Dante Via is activated but the user interface is still empty, double-check that Dante Via is actually running. When it is running, there will be a button at the top of the user interface labeled 'Stop'. If it's labeled 'Start', Dante Via is not currently running. You can also check in the general preferences.

Dante Via won't run (Windows)

Dante Via requires Microsoft .NET framework v4.5.1 or above - check if you have the required version, and update it if required (you can use Windows Update to update your .NET version).

Audio Problems - First Things to Check

- Check that Dante Via is actually running. When it is running , there will be a button at the top of the user interface labeled 'Stop'. And yes you've guessed it - if it's labeled 'Start', Dante Via is not currently running. You can also check in the general preferences.
- Check that Dante Via is selected as the default device (and in Windows, also as the default communication device) in your operating system's audio settings ('Playback devices' and 'Recording devices' in Windows, and 'Sound Preferences' in OS X).

- Check that the Dante Via volume in the Volume Mixer (Windows) or the Sound Preferences (OS X) is not turned right down.
- Check that your default output device (set in the Dante Via General Preferences) is capable of producing audio, and its volume is not turned right down or muted.
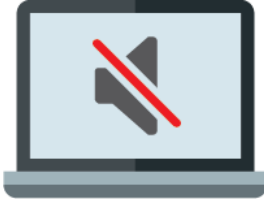
Sources Not Appearing

General

Are you sure what you're looking for is a source, and not a destination? Look for it in the Destinations panel.

Sources produce audio - they add audio to the computer / Dante network. Destinations receive audio from the computer / Dante network. Some devices and applications are sources and also destinations. More info

Locally-connected Hardware Sources (Local Audio Devices) Not Appearing

Windows

Local hardware sources should appear as soon as they are connected to the computer.

Troubleshooting steps

1. Make sure it's switched on!
2. Check the cable.
3. Physically disconnect and reconnect the device.
4. Make sure the latest drivers for the device are installed (usually can be downloaded from the manufacturer's website).
5. Make sure the device is properly enabled in Windows (Device Manager).

6. If the device supports multiple interface modes, check that it is in WDM mode (ASIO hardware interfaces are not supported).

7. For USB devices, make sure the USB port is working (try connecting something else to it).

8. Try setting it to 48 kHz sample rate (the native sample rate for Dante Via).

9. In Windows Device Manager, scan for hardware changes (this may rediscover any malfunctioning USB devices).

10. As a last resort, unplug the device, uninstall the USB port (using Windows Device Manager), then restart your PC - this will discover and re-enable any uninstalled USB ports.

OS X

Troubleshooting steps

1. Make sure it's switched on.

2. Check the cable.

3. Physically disconnect and reconnect the device.

4. Make sure the latest drivers for the device are installed (usually can be downloaded from the manufacturer's website).

5. Make sure the device appears in Utilities > Audio MIDI Setup.

6. For USB devices, make sure the USB port is working (try connecting something else to it).

7. Try setting it to 48 kHz sample rate (the native sample rate for Dante Via).

Software Sources (Local Applications) Not Appearing

Windows

In Windows, software sources will not usually appear in the Dante Via interface until they are actively playing audio.

Troubleshooting

1. Close the audio application.

2. Stop Dante Via (using the 'Stop' button).

3. Close the Via application.

4. Re-open Dante Via.

5. Restart Dante Via.

6. Restart the audio application.

7. Play some audio in the audio application.

WDM applications not appearing

If Protected Media Path is enabled, WDM (Windows audio) applications do not appear in Dante Via. ASIO applications are unaffected.

OS X

In OS X, most software sources will appear in the Via interface as soon as they are running. Some won't advertise their presence to the operating system until they are playing audio, in which case they must be used to play audio before they will appear in the Dante Via UI.

Troubleshooting

1. Play some audio using the application and check Via to see if it has appeared. If not:

2. Close the audio application.

3. Stop Dante Via (using the 'Stop' button).

4. Close the Dante Via application.

5. Re-open Dante Via.

6. Restart Dante Via.

7. Restart the audio application.

Audio sources on other Dante Via-installed computers (Via Devices) Not Appearing

Windows and OS X

Audio sources on other Dante Via-installed computers appear under the host computer name, if they are shared ('Enable Dante' is selected) on the host computer.

If a computer appears in the Via Devices list, but there are no sources listed under it (and the arrow is pointing down and to the right ◢ there are currently no shared sources on that computer.

Troubleshooting

- Ask the owner of the host computer to 'Enable Dante' for the source.

Networked Dante-enabled Hardware Sources (Dante Devices) Not Appearing

Windows and OS X

Dante devices (remote Dante devices that are not directly connected to a computer – such as mixing consoles and amplifiers) will only appear in Dante Via if they are set to 48 kHz sample rate (with no sample rate pull-up).

Troubleshooting

- Ensure the device is set to 48 kHz sample rate, with no sample rate pull-up.

Destinations Not Appearing

General

Are you sure what you're looking for is a destination, and not a source? Look for it in the Sources panel.

Destinations receive audio from the computer / Dante network. Sources produce audio - they add audio to the computer / Dante network. Some devices and applications are sources and also destinations. More info

Locally-connected Hardware Destinations (Local Audio Devices) Not Appearing

Windows and OS X

Local hardware destinations should appear as soon as they are connected to the computer.

For troubleshooting steps, see Locally-connected Hardware Sources (Local Audio Devices) Not Appearing.

Software Destinations (Local Applications) Not Appearing

Windows

Software destinations will not usually appear in the Dante Via interface until they are actively recording or receiving audio.

Troubleshooting

1. Close the audio application.
2. Stop Dante Via (using the 'Stop' button).
3. Close the Dante Via application.
4. Re-open Dante Via.
5. Restart Dante Via (using the 'Start' button).
6. Restart the audio application.
7. Record some audio in the audio application.

OS X

In OS X, software destinations do not appear in the Audio Destinations panel. To send audio to a software destination, you must send the source to the 2 Channel Application Input, and configure the application to use Dante Via as its audio interface.

Distorted Audio

Windows

Audio distortion can occur for a variety of reasons, including:

- Unstable device drivers
- Overloaded network links
- Overloaded CPU
- Particular software and/or hardware configurations

In the case of audio distortion on Windows:

1. Disable any Wi-Fi network connections.
2. Check that any network switches in the system are coping with their traffic.

3. Check the Performance tab in Windows Task Manager to see if your CPU is overloaded during Dante Via operation.

4. Check that your device drivers are at the latest versions.

5. Stop any unnecessary software processes.

6. In Dante Via, go to Preferences > Performance tab, and slide the slider to the far left.

7. Tune your PC for audio (check this FAQ for more information).

Absence of Audio

Absence of Audio from Locally-connected Hardware Sources (Local Audio Devices)

1. Check that the device is actually routed to a destination.

2. Check that the destination is configured to use Dante Via as its input interface.

3. Check that the device is producing audio (for example, using a built-in headphone jack).

4. Check that the destination is capable of receiving and/or playing audio.

5. Check that the Dante Via volume in the Volume Mixer (Windows) or the Sound Preferences (OS X) is not turned right down.

6. In Dante Controller, check for signal presence in the Transmit tab for the device and the Receive tab for the destination.

7. Disconnect and reconnect the device. For USB devices, try a different USB port.

8. Route the device to a different destination, to rule out problems with the original destination.

Absence of Audio from Software Sources (Local Applications)

1. Check that the application is actually producing audio.

2. Check that the Dante Via volume in the Volume Mixer (Windows) or the Sound Preferences (OS X) is not turned right down.

3. If the application isn't routed anywhere in particular, it should be playing to your default output (general preferences tab); check that the default output is physically able to play audio (check physical volume controls, power, connectivity).

4. If the application is routed to a specific destination, check that the destination is configured to use Dante Via as its input interface.

5. Check that the source is configured to use Dante Via as its output interface (note that Skype can automatically change its audio interface settings quite often, particularly when audio hardware is connected to or disconnected from the computer).

6. Check volume controls and other audio settings in the source and destination applications.

7. In Dante Controller, check for signal presence in the Transmit tab for the source and the Receive tab for the destination.

8. If all else fails, stop the application(s), stop Dante Via (using the 'Stop' button), close and re-open the Dante Via UI, restart Dante Via, and restart the application(s).

> ℹ️ **Note:** In Windows, some applications require 'protected media' support, for example video streaming applications such as the Netflix Windows application. If you cannot hear audio from a streaming application, try enabling the Protected Media Path in the 'Performance' preferences tab.

Absence of Audio from Other Computers (Via Devices)

Access Control

If audio from another computer (Via Device) is not heard when routed to one of your own destinations, check that the owner of the computer has approved any Access Control Requests ('Device X is trying to access … ').

Absence of Audio from Networked Dante-enabled Hardware Sources (Dante Devices)

See 'Absence of audio from locally-connected hardware sources (Local Audio Devices)'.

> ℹ️ **Note:** Dante devices need to be set to 48 kHz sample rate (with no pull-up) to appear in Dante Via.

Video streaming apps don't work anymore (Windows)

On Windows, Dante Via disables by default the 'protected media path', which is a secure Windows environment that supports DRM (Digital Rights Management) content.

Disabling this path may cause problems for Windows applications that require it, particularly video streaming apps such as the Netflix® Windows (Metro) app.

If you encounter problems with media streaming apps after installing Dante Via, you can re-enable the protected media path in the Performance tab of the Dante Via preferences. This will however cause problems for Dante Via's application discovery and may prevent you from using some audio sources across the Dante network.

iTunes is not appearing in the Dante Via UI / is not playing audio. Why is this? (Windows)

iTunes may be in 'Windows Audio Session' playback mode. For compatibility with Dante Via, iTunes must be set to 'Direct Sound' playback mode.

To change the iTunes playback mode to Direct Sound:

1. Open the iTunes Preferences.
2. Click the Playback tab.
3. Change the selection for 'Play Audio Using' to 'Direct Sound', and click OK.

Then:

1. Close iTunes
2. Stop and close Dante Via

3. Open and start Dante Via

4. Open iTunes, and play some audio.

iTunes should now appear in your Sources list, and audio should flow correctly.

Device Unavailable (Windows)

If a device is grayed out and displaying the text 'Device Unavailable', it indicates that the device has 'Allow applications to take exclusive control of this device' enabled (in the Windows device properties), and it is being exclusively controlled by another audio application.

To use the device, either stop the application that is using the device, or disable 'Allow applications to take exclusive control of this device' for the device:

1. Right-click the speaker icon in the System tray and select 'Playback devices'.

2. Right-click the device and select 'Properties'.

3. Select the Advanced tab.

4. Deselect 'Allow applications to take exclusive control of this device'.

5. Click OK twice.

User Interface Notifications

Icons Displayed in the Dante Via User Interface

This icon indicates that you are not physically connected to an Ethernet network.

This icon indicates network connectivity issues - typically this is because you have multiple network connections to your Dante network.

This icon indicates that Dante Via is not set as the default audio device for your computer. To use Dante Via for audio, you will need to manually set Dante Via as the default audio device using the standard process for your operating system.

Error and Warning Notifications

Dante Via has detected that Dante Virtual Soundcard is currently active on this computer ...

Dante Via and Dante Virtual Soundcard cannot be run simultaneously. Close Dante Virtual Soundcard before using Dante Via.

An older version of Dante Virtual Soundcard has been found on this computer ...

Older versions of Dante Virtual Soundcard can cause problems for Dante Via. If you require that Dante Virtual Soundcard is also installed on your Dante Via computer, it must be at the latest version.

Insufficient Resources ...

Dante Via has finite resources for managing and transporting audio. If you see an 'Insufficient Resources' error, it means that all of Dante Via's resources are currently in use, and you cannot create any new audio routes.

To free up resources, you can:

- Close running audio applications
- Disconnect peripheral audio devices
- Remove local devices and applications from the Dante network (click 'Disable Dante')
- Remove remote subscriptions to your local sources and destinations

The Dante Via Session Manager needs to restart ...

If the 'session manager' (the service that manages Dante Via audio) needs to restart for any reason, you should stop your audio applications, click OK on the warning dialog, and then restart your audio applications (when the session manager has restarted) to ensure that they are discovered again by Dante Via.

The Dante Via manager service is not running ...

You should only see this if you have manually stopped the manager service (dantevia.manager). To resolve the problem, manually restart the service.

Failed to clear configuration ... (Windows only)

This will occur if you click the 'Clear Configuration' button and you are not logged in to the computer as an administrator.

Unable to enable protected media path ... (Windows only)

This will occur if you attempt to select 'Enable Protected Media Path' and you are not logged in to the computer as an administrator.

Dante Via failed to start ...

This is rare, but can occur under some circumstances in Windows. Either manually restart the dantevia.manager service (using the Windows services manager) or restart the computer.

Index

Windows Audio Session 44