24-bit / 192 kHz USB-C Audio Interface
with 2 Microphone Preamps

neva DUO

User's Guide

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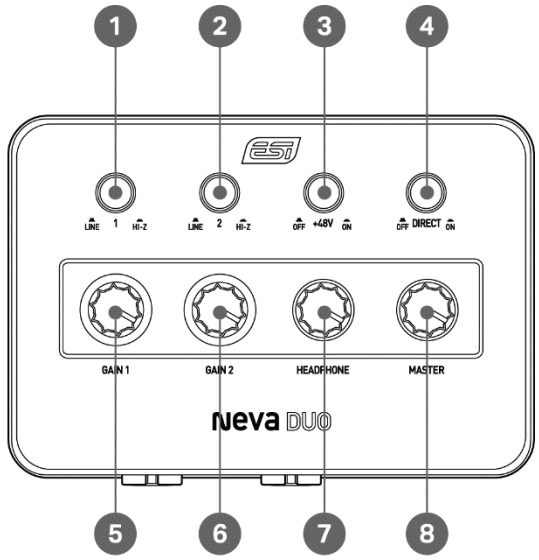
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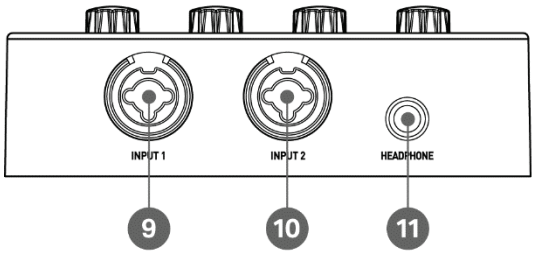
1. Introduction

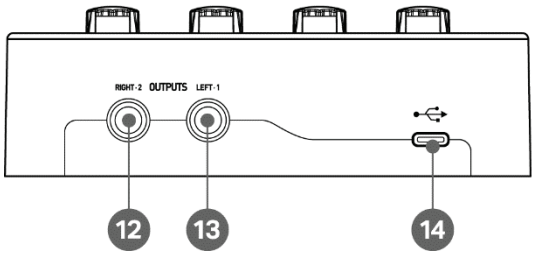
Congratulations on your purchase of Neva Duo, a high quality USB-C audio interface to connect microphones, synthesizers or guitars and to listen with headphones or studio monitors in 24-bit / 192 kHz audio quality that works with your Mac or your PC and as a fully class compliant device even with many portable devices such as iPad and iPhone (via an adapter like the Apple Lightning to USB 3 Camera Connector). This stylish audio interface is so small, it will instantly become your new companion on the go and in your studio. Neva Duo is USB bus powered and Plug & Play, just plug it in and start working. While Neva Duo is a USB-C device and optimized for USB 3.1 operation, it is also compatible with standard USB 2.0 ports.

1.1 Connectors & Functions

The front, back and top panel of the Neva Duo hardware has these main features:







1. **Line Hi-Z Switch 1** for input 1 to switch between Line / Microphone signals and Hi-Z guitar signals.
2. **Line Hi-Z Switch 2** for input 2 to switch between Line / Microphone signals and Hi-Z guitar signals.
3. **+48V Phantom Power Switch** to provide power for condenser microphones. When enabled, the power LED illuminates red, when disabled orange.
4. **Direct Monitoring Switch** to enable or disable input monitoring to listen to the input signals.
5. **Gain Knob 1** to change the input gain / input level for input 1. The LED ring indicates the signal level.
6. **Gain Knob 2** to change the input gain / input level for input 2. The LED ring indicates the signal level.
7. **Headphone Volume Knob** to change the output volume for connected headphones.
8. **Master Volume Knob** to control the master output volume of the main line output signal.
9. **XLR / TRS Combo Input 1** to connect a microphone via XLR cable, a line signal via 1/4" TRS connector or an electric guitar with 1/4" TS connector.
10. **XLR / TRS Combo Input 2** to connect a microphone via XLR cable, a line signal via 1/4" TRS connector or an electric guitar with 1/4" TS connector.
11. **Headphone Output** to connect headphones.
12. **Line Output 2** to connect the right channel of the master line level output signal via a 1/4" TRS cable.

13. **Line Output 1** to connect the left channel of the master line level output signal via a 1/4" TRS cable.
14. **USB-C Connector** to connect the audio interface to a PC, Mac, tablet or mobile phone.

2. Installation

2.1 System Recommendation

Neva Duo is not simply a standard digital audio interface, but a high-resolution device capable of advanced processing of audio content. Even though Neva Duo is built to have low-CPU resource dependability, system specifications play a key part in its performance. Systems with more advanced components are generally recommended.

Minimum System Requirements

PC

- Windows 10 or 11 (32- and 64-bit) operating system
- Intel CPU (or 100% compatible)
- 1 available USB 2.0 or USB 3.1 port ("type A" with the included cable or "type C" with an optional USB-C to USB-C cable)

Mac

- OS X / macOS 10.9 or higher
- Intel or 'Apple Silicon' M1 / M2 CPU
- 1 available USB 2.0 or USB 3.1 port ("type A" with the included cable or "type C" with an optional USB-C to USB-C cable)

2.2 Hardware Installation

Neva Duo is directly connected to an available USB port of your computer. The connection to your computer is done either via a so-called "type A" or a "type C" port. For the default and more common connector ("type A"), a cable is included. For "type C" a different cable or an adapter is needed (not included). Connect one end of the USB cable with Neva Duo and the other one to the USB port of your computer.



USB "type A" port of a computer



USB "type C" port of a computer

2.3 Driver & Software Installation

After the connection of Neva Duo, the operating system automatically detects it as a new hardware device. However, you should install our driver and control panel to use it with full functionality.

We **strongly** recommend to download the latest driver from www.esi-audio.com before installing Neva Duo on your computer. Only if our driver and control panel software is installed, all the functionality is provided under Windows and OS X / macOS.

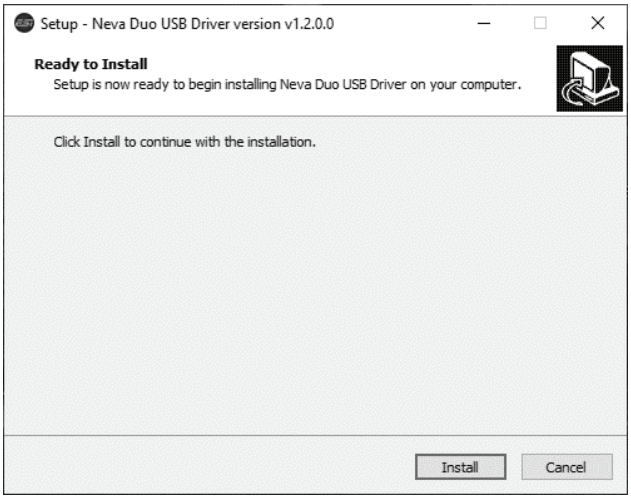
You can always find the latest drivers and software for both Mac and PC for your Neva Duo by going to this page in your web browser:

>>> http://en.esi.ms/119 <<<

2.3.1 Installation under Windows

The following explains how to install Neva Duo under Windows 10. If you use Windows 11, the steps are basically the same. Do not connect Neva Duo to your computer before you install the driver - if you have connected it already, disconnect the cable for now.

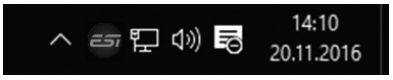
To start the installation, launch the setup program, which is an .exe file that is inside a recent driver download from our website by double clicking on it. When launching the installer, Windows might display a security message. Make sure to allow the installation. After that, the following dialog on the left will appear. Click *Install* and then the installation will be done automatically. The dialog on the right will appear:





Now click *Finish* - it is strongly recommended to leave *Yes, restart the computer now* selected to reboot the computer. After the computer has rebooted, you can connect Neva Duo. Windows will automatically setup the system so you can use the device.

To confirm the completion of the installation, please check if the orange color ESI icon is displayed in the taskbar notification area as shown below.

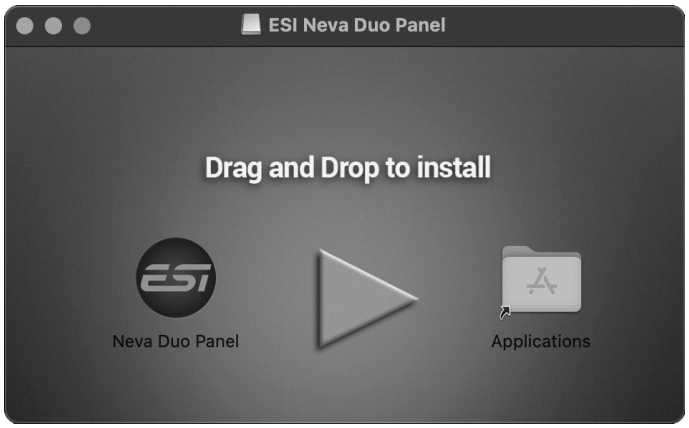


If you can see it, the driver installation has been completed successfully.

2.3.2 Installation under OS X / macOS

To use Neva Duo under OS X / macOS, you need to install the control panel software from the download from our website. This procedure is basically the same for all the different versions of OS X / macOS.

The control panel gets installed by double clicking on the .dmg file and then you will get the following window in *Finder*:

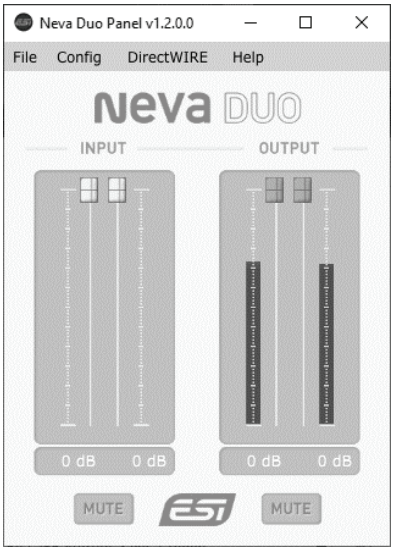


To install the *Neva Duo Panel*, click and drag it with your mouse to the left to *Applications*. This will install it into your *Applications* folder.

Controlling some of the basic options of Neva Duo under OS X / macOS can be done via the *Audio MIDI Setup* utility from Apple (from the folder *Applications* > *Utilities*), however the main functions are controlled by our dedicated control panel application that has now been placed into your *Applications* folder.

3. Windows Control Panel

This chapter describes the Neva Duo Control Panel and its functions under Windows. To open the control panel double click on the orange ESI icon in the task notification area. The following dialog will appear:



The *File* menu provides an option called *Always on Top* that makes sure the Control Panel stays visible even when working in other software and you can launch the *Windows Audio Settings* there.

The *Config* menu allows you to load the *Factory Defaults* for the panel and driver parameters and you can select the *Sample rate* there as well (as long as no audio is being played back or recorded). As Neva Duo is a digital audio interface, all applications and audio data will be processed with the same sample rate at a given time. The hardware natively supports rates between 44.1 kHz and 192 kHz.

The *Help* > *About* entry shows current version information.

The main dialog has two sections:

INPUT

This section allows you to control the input volume and there are signal level meters for the two physical input channels. Under it there is a button that allows you to *MUTE* the input signal. The change in level is shown in dB values.

To control both left and right channels simultaneously (stereo), you need to move the mouse pointer in the middle between the two faders. Click directly on each fader to change channels independently.

OUTPUT

This section contains volume control sliders and signal level meters for the two playback channels. Under it there is button that allows you to *MUTE* playback and there are playback level values displayed for each channel in dB.

To control both left and right channels simultaneously (stereo), you need to move the mouse pointer in the middle between the two faders. Click directly on each fader to change channels independently.

3.1 Latency and buffer settings

Via *Config* > *Latency* in the Control Panel it is possible to change the latency setting (also called "buffer size") for the driver of Neva Duo. A smaller latency is the result of a smaller buffer size and value. Depending on the typical application (e.g. for playback of software synthesizers) a smaller buffer with a smaller latency is an advantage. At the same time, the best latency setting indirectly depends on the performance of your system and when the system load is high (for instance with more active channels and plugins), it can be better to increase the latency. The latency buffer size is selected in a value called *samples* and if you are curious about the actually latency time in milliseconds, many recording applications display this value inside the settings dialog there. Please note that the latency has to be setup before launching the audio application using Neva Duo.

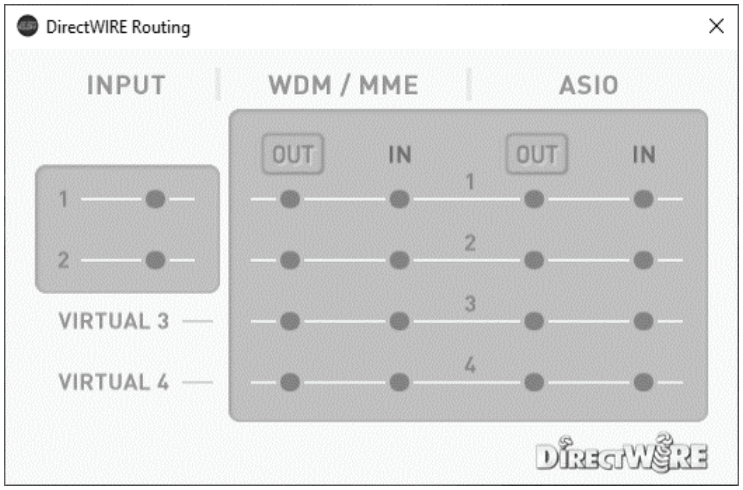
Via *Config* > *USB Buffer*, you can select the number of USB data transfer buffers used by the driver. In many cases, these values do not need to be changed, however as they have a bit of an influence on the audio latency and on stability, we allow you to fine tune this setting. In some applications where real time processing and latency values or better performance at high system load are critical, you can optimize the values here additionally. Which value is best on your system depends on a number of factors such as what other USB devices are used at the same time and what USB controller is installed inside your PC.

3.2 DirectWIRE Routing and virtual channels

Under Windows, Neva Duo has a feature called *DirectWIRE Routing* that allows fully digital internal loopback recording of audio streams. This is a great feature to transfer audio signals between audio applications, create mix downs or to provide content for online live streaming applications.

Note: DirectWIRE is a very powerful feature for special applications and professional usage. For most standard recording applications with only one audio software and for pure audio playback, no DirectWIRE settings are needed at all and you should not change those settings unless you know what you want to achieve.

To open the related settings dialog, select the *DirectWIRE* > *Routing* entry via the top menu of the control panel software and the following window appears:



This dialog allows you to virtually connect playback (output) channels and input channels with virtual cables on the screen.

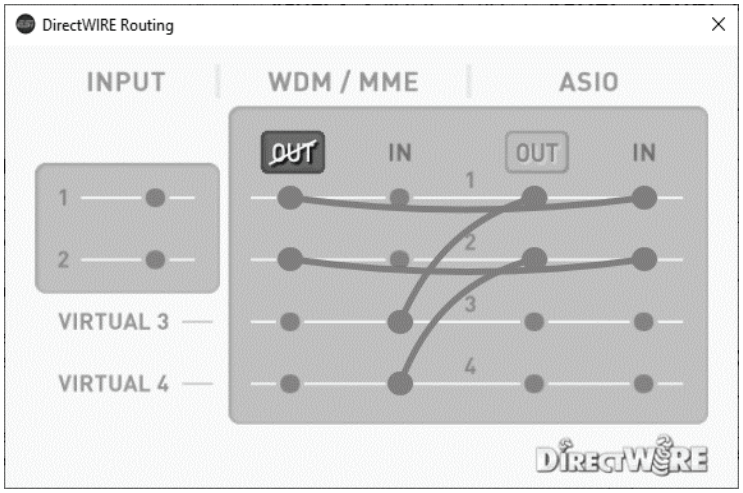
The three main columns are labeled *INPUT* (the physical hardware input channel), *WDM/MME* (the playback/output and input signals from audio software that use the Microsoft MME and WDM driver standard) and *ASIO* (the playback/output and input signals from audio software that uses the ASIO driver standard).

The rows from top to down represent the available channels, first the two physical channels *1* and *2* and under it a pair of *VIRTUAL* channels numbered *3* and *4*. Both the physical and virtual channels are represented as separate stereo WDM/MME devices under Windows and in your applications and also as channels accessible via the ASIO driver in software that uses that driver standard.

Finally, the MME/WDM and ASIO playback can be muted (= not sent to the physical output) by clicking on *OUT* if required.

DirectWIRE example

For further explanation, let's look at the following example configuration. Please note that every application of DirectWIRE is specific and there is hardly any universal setup for certain complex requirements. This example is simply to illustrate some of the powerful options:



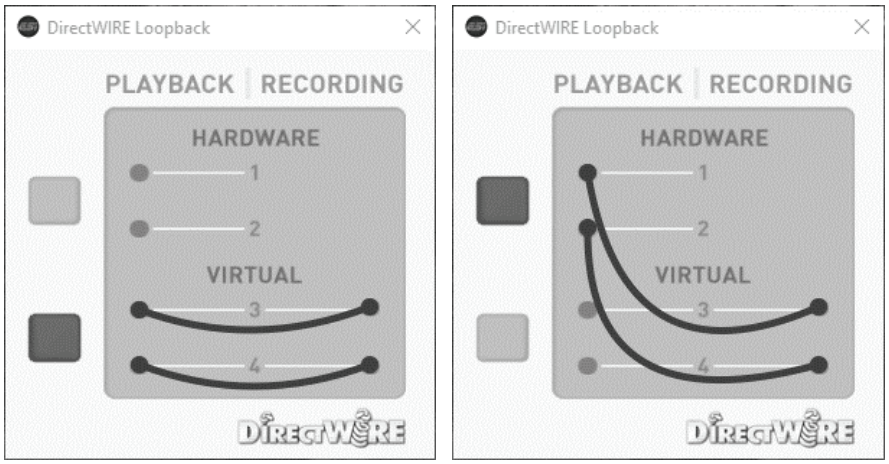
You can see here connections between *ASIO OUT 1* and *ASIO OUT 2* to *WDM/MME VIRTUAL IN 1* and *WDM/MME VIRTUAL IN 2*. This means that any playback of an ASIO application via channel 1 and 2 (for instance your DAW) will be sent to the WDM/MME wave device 3/4, allowing you to record or maybe live stream the output of the ASIO software with an application that records on channel 3/4.

You can also see that the playback of channel 1 and 2 (*WDM/MME OUT 1* and *WDM/MME OUT 2*) is connected with the ASIO input of channel 1 and 2 (*ASIO IN 1* and *ASIO IN 2*). This means that anything any MME/WDM compatible software plays on channel 1 and 2 can be recorded / processed as input signal in your ASIO application. This signal cannot be heard via the physical output of Neva Duo since the *OUT* button is set to mute.

3.3 DirectWIRE Loopback

Neva Duo also provides a feature we call *DirectWIRE Loopback*, a quick, simple and efficient solution to record or stream playback signals, no matter what audio applications you are using.

To open the related dialog, select the *DirectWIRE* > *Loopback* entry via the top menu of the control panel software and the following window appears, showing the option to loop back signals from the virtual playback channel 3 and 4 or from the hardware playback channel 1 and 2.



Neva Duo provides a virtual channel recording device as input channels 3 and 4.

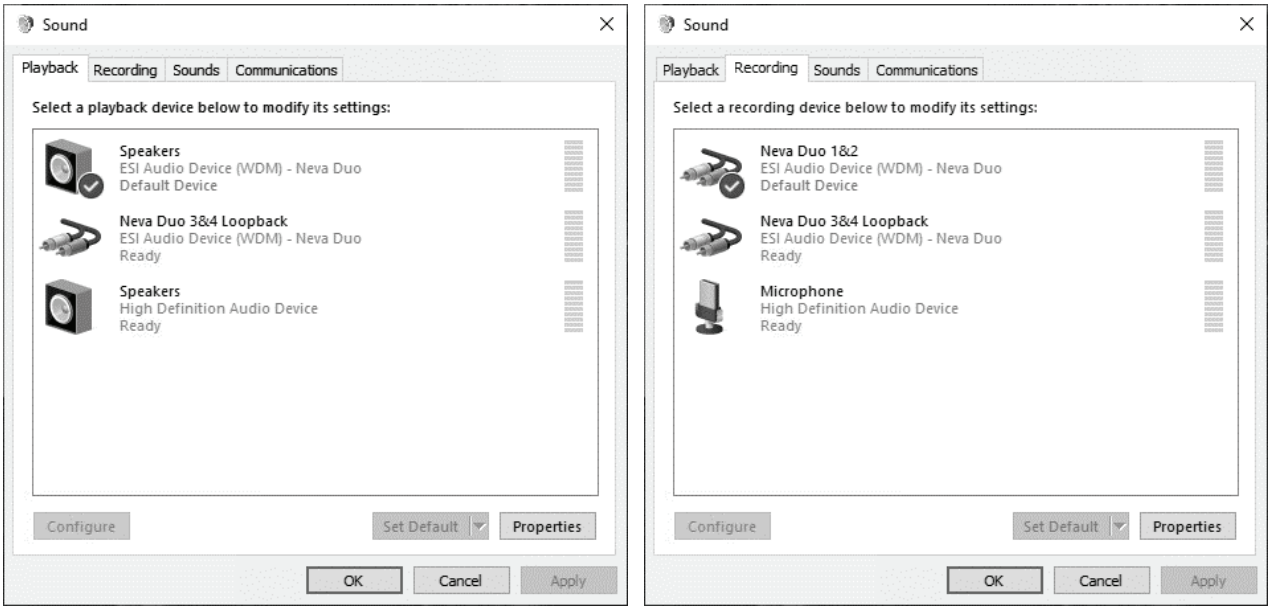
By default (shown above on the left), the signal that can be recorded there is identical to the signal played via the virtual playback device channel 3 and 4.

Alternatively (shown above on the right), the signal that can be recorded there is identical to the main playback signal from channel 1 and 2, which is the same signal also sent out through the line output and headphone outputs.

This makes it possible to record the playback internally. For instance, you can use it to playback any audio signal in any application while you record it with a different software or you could record the main master output signal on the same computer. There are many possible applications, i.e. you can record what you are streaming online or you can save the output of a software synthesizer application. Or you stream what you are doing in real time to the internet.

3.4 Windows Audio Settings

Via the Windows *Sound* control panel icon or by selecting *File* > *Windows Audio Settings* in our control panel software, you can open these *Playback* and *Recording* dialogs:



In the *Playback* section you can see the main MME / WDM audio device, which Windows labels *Speakers*. This represents the output channels 1 and 2. In addition there is a virtual channel device, *Neva Duo 3&4 Loopback*.

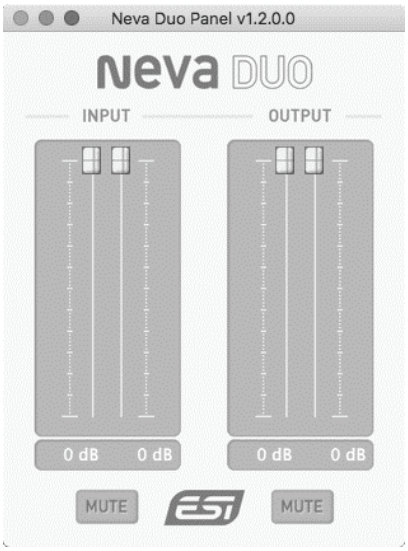
In order to hear the system sounds and to hear sounds from standard applications such as your web browser or a media player via Neva Duo, you need to select it as the default device in your operating system by clicking on it and then click *Set Default*.

The *Recording* section similarly has the main input device that represents channel 1 and 2 which are used to record signals from the physical input channels. There is also a device with virtual channels, *Neva Duo 3&4 Loopback*.

Please note that any audio hardware that is installed in your computer already will also appear on this list and you need to choose which one you want to use by default here. Note that most audio applications have their own settings for this.

4. OS X / macOS Control Panel

This chapter describes the Neva Duo Control Panel and its functions on the Mac. Under OS X / macOS, you can find a Neva Duo icon in the *Applications* folder. Double click on this to launch the control panel software and the following dialog will appear:



The *File* menu provides an option called *Always on Top* that makes sure the Control Panel stays visible even when working in other software and you can launch the *macOS Audio Settings* there.

The *Config* menu allows you to load the *Factory Defaults* for the panel parameters and you can select the *Sample rate* there as well. As Neva Duo is a digital audio interface, all applications and audio data will be processed with the same sample rate at a given time. The hardware natively supports rates between 44.1 kHz and 192 kHz.

The *Help > About* entry shows current version information.

The main dialog has two sections:

INPUT

This section allows you to control the input volume. Under it there is a button that allows you to *MUTE* the input signal. The change in level is shown in dB values.

To control both left and right channels simultaneously (stereo), you need to move the mouse pointer in the middle between the two faders. Click directly on each fader to change channels independently.

OUTPUT

This section contains volume control sliders for the two playback channels. Under it there is button that allows you to *MUTE* playback and there are playback level values displayed for each channel in dB.

To control both left and right channels simultaneously (stereo), you need to move the mouse pointer in the middle between the two faders. Click directly on each fader to change channels independently.

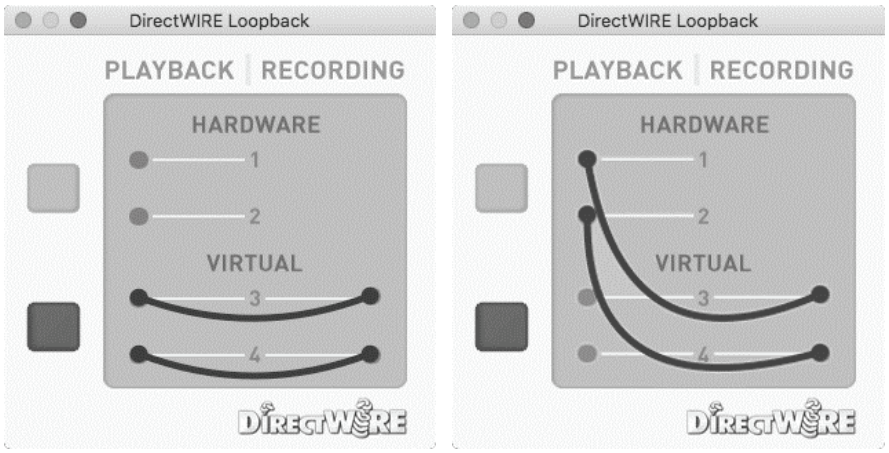
4.1 Latency and buffer settings

Unlike under Windows, on OS X / macOS, the latency setting is depending on the audio application (i.e. DAW) and usually setup there inside the audio settings of that software and not in our control panel software. If you are unsure, check the manual of the audio software you are using.

4.2 DirectWIRE Loopback

Neva Duo also provides a feature we call *DirectWIRE Loopback*, a quick, simple and efficient solution to record or stream playback signals, no matter what audio applications you are using.

To open the related dialog, select the *DirectWIRE* > *Loopback* entry via the top menu of the control panel software and the following window appears, showing the option to loop back signals from the virtual playback channel 3 and 4 or from the hardware playback channel 1 and 2.



Neva Duo provides a virtual channel recording device as input channels 3 and 4.

By default (shown above on the left), the signal that can be recorded there is identical to the signal played via the virtual playback device channel 3 and 4.

Alternatively (shown above on the right), the signal that can be recorded there is identical to the main playback signal from channel 1 and 2, which is the same signal also sent out through the line output and headphone outputs.

This makes it possible to record the playback internally. For instance, you can use it to playback any audio signal in any application while you record it with a different software or you could record the main master output signal on the same computer. There are many possible applications, i.e. you can record what you are streaming online or you can save the output of a software synthesizer application. Or you stream what you are doing in real time to the internet.

5. Specifications

- USB 3.1 audio interface with USB-C connector, USB 2.0 compatible ("type A" to "type C" cable included, "type C" to "type C" cable not included)
- USB bus powered
- 2 input / 2 output channels at 24-bit / 192kHz
- 2x XLR microphone preamp with +48V phantom power support
- 2x Hi-Z input
- line output with balanced/unbalanced 1/4" TRS connectors
- headphone output with 1/4" connector and separate volume control
- ADC with 97dB(a) dynamic range
- DAC with 107dB(a) dynamic range
- frequency response: 20Hz to 20kHz, +/- 0.02 dB
- input gain range: 50dB
- input impedance: line 10 KΩ / mic 3.3 KΩ / Hi-Z 500 KΩ
- line max. output level (balanced): 15.7dBu
- headphone impedance: 32 Ω
- headphone max. output level: 8.5dBu
- real time hardware input monitoring activated by switch
- master output volume control
- stereo hardware loopback channel for internal recording
- EWDM driver supports Windows 10 / 11 with ASIO 2.0, MME, WDM and DirectSound
- supports OS X / macOS (10.9 and above) via the native CoreAudio USB audio driver from Apple (no driver installation needed)
- 100% class compliant (no driver installation required on many modern operating systems such as Linux via ALSA as well as iOS based and other mobile devices)

6. General Information

Satisfied?

If something is not working as expected, please don't return the product and first use our technical support options via www.esi-audio.com or contact your local distributor. Do not hesitate to give us feedback or write a review online. We love to hear from you so we can improve our products!

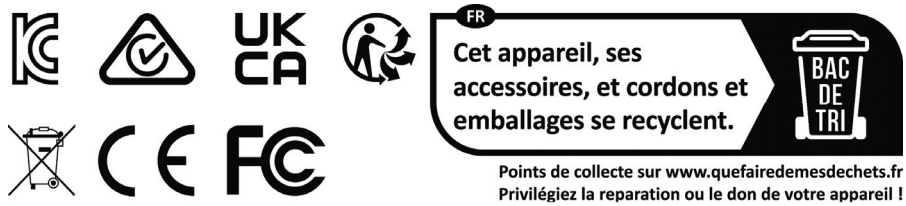
Trademarks

ESI, Neva and Neva Duo are trademarks of ESI Audiotechnik GmbH. Windows is a trademark of Microsoft Corporation. Other product and brand names are trademarks or registered trademarks of their respective companies.

The FCC and CE Regulation Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Caution: Any changes or modifications in construction of this device with are not expressly approved by the party responsible for compliance, could void the user's authority to operate equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. If necessary, consult an experienced radio/television technician for additional suggestions.



Correspondence

For technical support inquiries, contact your nearest dealer, local distributor or ESI support online at www.esi-audio.com. Please also check our extensive Knowledge Base with Frequently Asked Questions, installation videos and technical details about our products in the support section of our website.

Disclaimer

All features and specifications subject to change without notice.

Parts of this manual are continually being updated. Please check our web site www.esi-audio.com occasionally for the most recent update information.