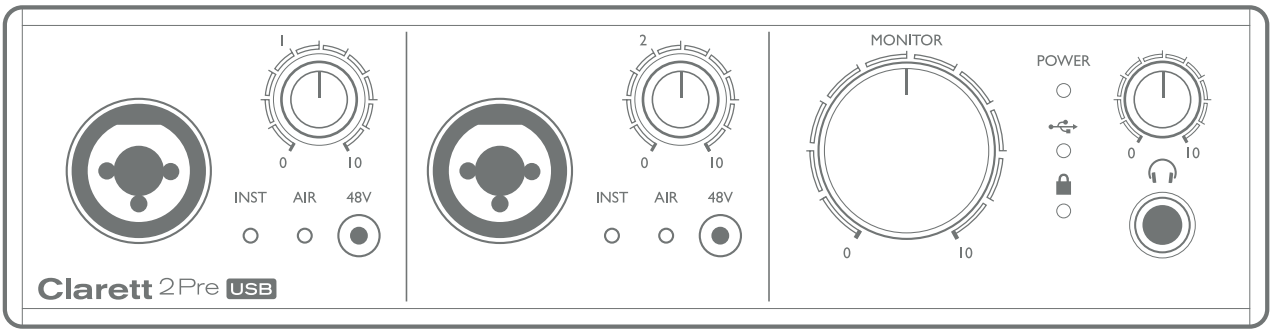
Clarett 2Pre USB

User Guide



Version 2

Focusrite®
focusrite.com

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OVERVIEW

WARNING: Excessive sound pressure levels from earphones and headphones can cause hearing loss.

WARNING: This equipment is only compatible with USB Type 2.0+ ports, or Thunderbolt 3+ ports. More information regarding the compatibility of computer serial ports can be found at:

support.focusrite.com/hc/articles/115005994565-Scarlett-3rd-Gen-Clarett-USB-Clarett-USB-connectivity-Do-I-need-a-USB-C-port-

Introduction

Thank you for purchasing this Clarett 2Pre USB, one of the family of Focusrite professional USB audio interfaces incorporating newly-designed, high quality Clarett analogue pre-amplifiers with the unique AIR function. In conjunction with the Focusrite Control application, you now have a highly versatile and professional solution for routing high quality audio to and from your computer recording system, with super-low latency.

You can also use the Clarett 2Pre USB as a stand-alone interface on-stage, bringing the benefits of Focusrite's high-quality analogue microphone preamps to your live performance.

This User Guide provides a detailed explanation of the hardware to help you achieve a thorough understanding of the product's operational features. We recommend you take the time to read through the Guide, whether you're new to computer-based recording or a more experienced user, so you are fully aware of all the possibilities the Clarett 2Pre USB has to offer.

> **IMPORTANT:** As well as this User Guide, you will need the Focusrite Control Software Guide which can be downloaded from focusrite.com/downloads
> This contains full details of Focusrite Control, the software application that has been designed specifically for use with the Focusrite Clarett USB range of interfaces.

If either User Guide does not have the information you need, please go to support.focusrite.com, where you can find articles and tutorials beyond the scope of this user guide. A Getting Started video tutorial is also available, at focusrite.com/get-started.

Features

The Clarett 2Pre USB audio interface provides the means for connecting microphones, musical instruments, line level audio signals and digital audio signals to a computer through the computer's USB port. The signals at the physical inputs can be routed to your audio recording software / digital audio workstation (referred to throughout this user guide as the "DAW"); similarly, the outputs from the DAW can be configured to appear at the unit's physical outputs.

Audio sources – mics, instruments, etc., can be recorded into your DAW and then played back from there through amplifiers and speakers, powered monitors, headphones, a mixer or any other analogue or digital audio equipment you wish to use.

The Clarett 2Pre USB is also a MIDI interface, allowing your computer to connect to other MIDI equipment in your studio.

An important feature of the Clarett 2Pre USB is the analogue preamplifier design. In addition to their class-leading dynamic range and ability to provide all the gain you're ever likely to need, the circuitry now includes an exciting new AIR function. Individually selectable on each channel, AIR subtly modifies the pre-amp's frequency response to model the impedance and resonance characteristics of Focusrite's classic transformer-based ISA microphone preamps. When recording with good quality microphones, you will notice an enhanced clarity and definition in the important mid to high frequency range, just where it is most needed for vocals and many acoustic instruments.

The accompanying software application, **Focusrite Control**, is designed to require a minimal amount of user interaction, letting you easily configure the Clarett 2Pre USB with signal routings appropriate for the most common recording tasks. For more complex situations, it provides extensive routing and monitoring options, as well as the ability to control global hardware settings such as sample rate and synchronisation. You can download Focusrite Control from focusrite.com/downloads.

iPad and iPhone users can additionally download **Focusrite iOS Control** from the App Store®. The app communicates via WiFi with Focusrite Control running on your computer, and lets you adjust your monitor mixes from your iOS device. For more information see:

support.focusrite.com/hc/articles/212028389-Focusrite-iOS-Control-Basic-setup

Box Contents

Along with your Clarett 2Pre USB you should have:

- External 12 V DC mains Power Supply Unit (PSU)
- USB-C to USB-A cable
- USB-C to USB-C cable

Focusrite Control is available at focusrite.com/downloads. On Windows, **Focusrite Control** will also install the driver required. Mac users: Clarett 2Pre USB is class-compliant on Macs, therefore no drivers are required.

As a Clarett owner, you are also entitled to a selection of third-party software. To find out what's included, go to:

focusrite.com/usb-c-audio-interface/clarett-usb/clarett-2pre-usb

System Requirements

IMPORTANT – Please visit the following link for up-to-date information on computer and operating system compatibility for all Clarett products:

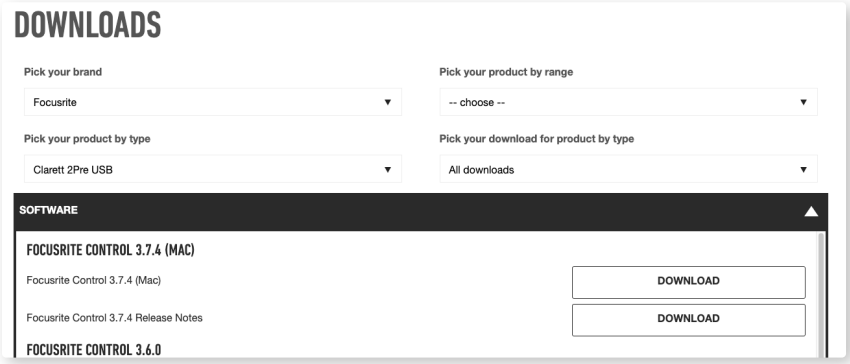
support.focusrite.com

GETTING STARTED

Software Installation

Focusrite Control and the driver software needed for the Clarett USB are available for download from the Focusrite website: focusrite.com/downloads.

Click **`Clarett USB range`** on the **`Downloads`** page. This will take you to a page with all the downloads which are available for the Clarett USB range.



To download the **Focusrite Control** version you need, click the appropriate **`Download`** button.

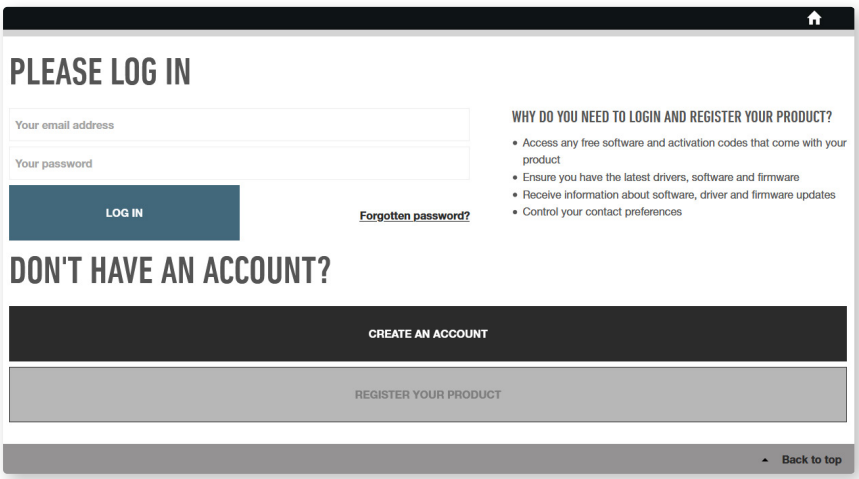
Note that the Windows driver is included within the **Focusrite Control** download. No additional driver is needed for Macs.

Registering your Clarett USB

If you are having trouble with the steps below, please watch our video guide here:

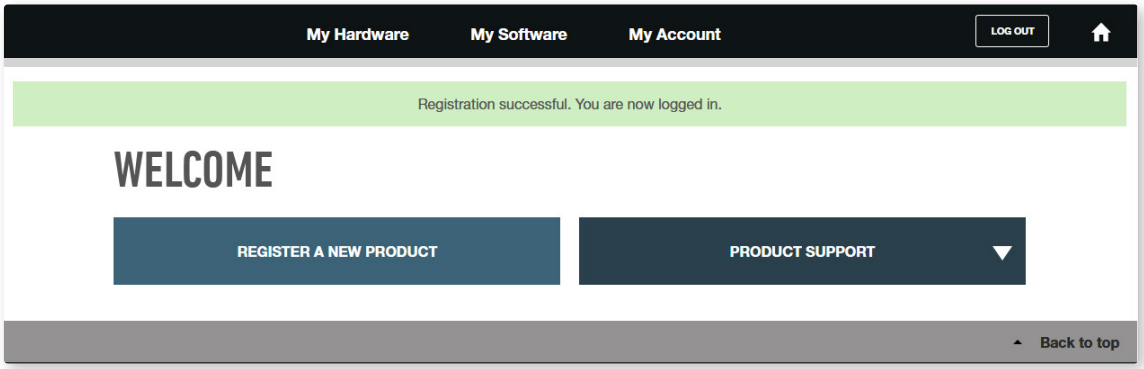
focusrite.com/get-started

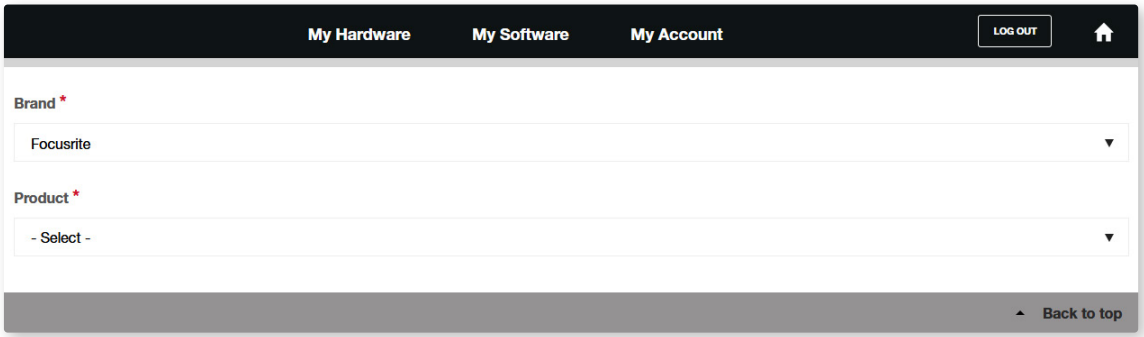
1. Go to focusrite.com/register



2. If you do not have already have a Focusrite/Novation account, select **`CREATE AN ACCOUNT`** and follow the on-screen instructions.

3. If you do have an account, log in and select **REGISTER A NEW PRODUCT**:





4. Select your Clarett USB device from the **Product** drop-down list and enter your device's Serial Number at the bottom of the page. You can find the serial number on the rear or underside of the Clarett, and also on the gift box. Then click **Set Serial Number**.

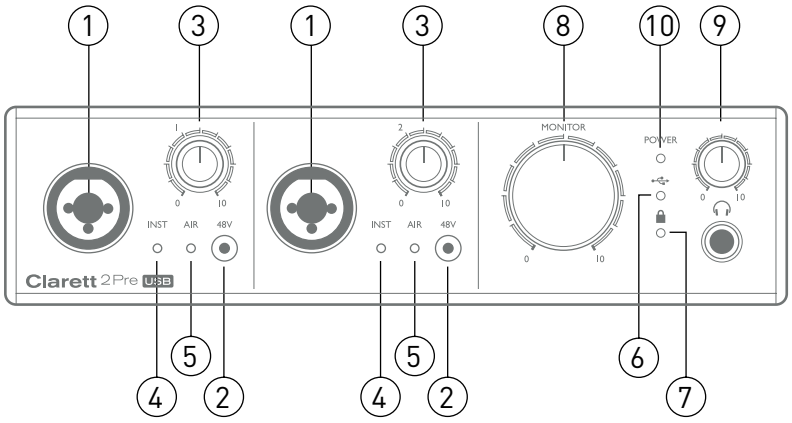
5. Follow the rest of the on-screen instructions to finish registering your device.

6. When registration is complete, your Product will appear in your Account under the **My Hardware** tab.

7. All your bundled software can be found under the **My Software** tab in your account.

Hardware Features

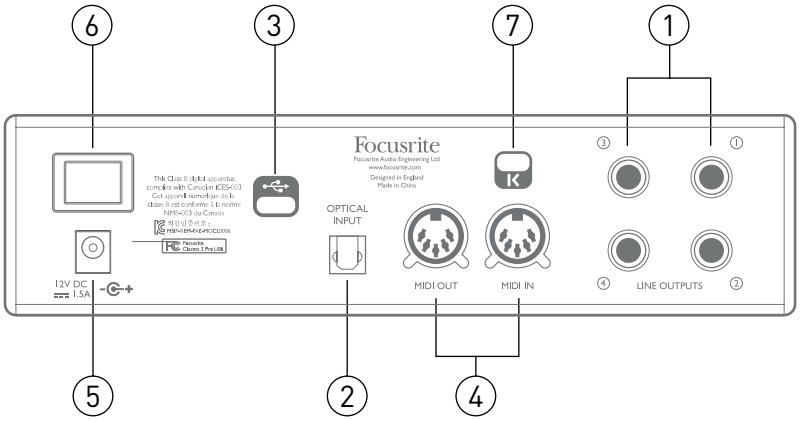
Front Panel



The front panel includes the input gain controls and input connectors for Mic, Line and Instrument signals for both channels, and also the monitoring controls.

1. INPUTS 1 & 2 – Combo XLR input sockets for each channel - connect microphones via an XLR connector, or instruments (e.g., guitar) or line level signals via ¼" jacks. Either TRS (balanced) or TS (unbalanced) jack plugs can be used for instruments or line level signals.
2. **48V** – two switches enabling 48 V phantom power at the Combo connectors' XLR contacts for mic inputs 1 and 2. Each switch has a red LED to show when phantom power is enabled. Note that not all microphones require phantom power. If you are unsure whether your microphone needs it to work, please read the microphone documentation.
3. Gain **1** and **2** – two rotary controls: adjust the input gain for the signals at Inputs 1 and 2 respectively. The gain controls have concentric bi-colour LED 'halos' to confirm signal level: green indicates an input level of at least -42 dBFS (i.e., 'signal present'), the ring then turns orange when the signal level reaches -6 dBFS, and red at 0 dBFS.
4. **INST** – two red LEDs which illuminate when Instrument mode is selected for the jack Inputs 1 or 2 from **Focusrite Control** software. When Instrument mode is selected, the line input is converted to a high impedance unbalanced input. You can connect instruments via a 2-pole (TS) jack plug here.
5. **AIR** – two yellow LEDs which illuminate when the AIR function is selected for each input from Focusrite Control. AIR modifies the frequency response of the input stage to model the classic, transformer-based Focusrite ISA microphone preamps.
6. ⇢ (USB active) – a green LED which illuminates when the unit has established a connection with the host computer to which it is connected.
7. 🔒 (Locked) – a green LED which confirms clock synchronisation, either to the Clarett 2Pre USB's internal clock or to the external digital input.
8. **MONITOR** – main monitor output level control – this control will normally control the level at the main monitor outputs on the rear panel, but can be configured in Focusrite Control to adjust the level of either or both pairs of analogue outputs.
9. 🎧 (Headphones) – connect a pair of stereo headphones at the ¼" TRS jack socket below the control. The headphone output always carries the signals currently routed to analogue outputs 3 and 4 (as a stereo pair) in Focusrite Control.
10. **POWER** – green LED confirming DC power is connected.

Rear Panel



1. **LINE OUTPUTS 1** to **4** – four balanced analogue line outputs on ¼" jack sockets; use TRS jacks for a balanced connection or TS jacks for unbalanced. Line Outputs **1** and **2** will generally be used for driving the main L and R speakers of your monitoring system, while Outputs **3** and **4** can be used for connecting additional line level equipment (e.g., outboard FX processors). The signals routed to all the outputs may be defined in Focusrite Control.
2. **OPTICAL INPUT** – a TOSLINK connector carrying eight channels of digital audio in ADAT format at 44.1/48 kHz sample rate or four channels at 88.2/96 kHz. These are simply additional inputs to the Clarett 2Pre USB. This input is disabled at 176.4/192 kHz operation. This input is also capable of accepting an optical S/PDIF source.
3. ⇻ – USB-C™ connector; connect the Clarett 2Pre USB to your computer with either the supplied USB-C to USB-C or USB-C to USB-A cable.
4. **MIDI IN** and **MIDI OUT** – standard 5-pin DIN sockets to connect external MIDI equipment. You can send/receive MIDI data between your computer and external MIDI devices.
5. External DC power input – power the Clarett 2Pre USB via the separate AC adaptor (PSU) supplied. The PSU is a 12 V DC unit rated at 1.5 A.
6. Power On/Off switch.
7. Kensington security slot– secure your Clarett 2Pre to a suitable structure if desired.

Connecting your Clarett 2Pre USB

The Clarett 2Pre has a USB-C™ port (on the rear panel). Once the software installation is complete, connect the Clarett 2Pre to your computer using one of the supplied USB-C cables.

The Clarett 2Pre can be powered either with the supplied AC adaptor (PSU), or via the USB connection, provided your computer has a 15 W Type-C™ port. See Clarett 2Pre USB Bus Power Information to check whether your computer has a port of this type.

Turn the unit on with the power switch.

Computer audio setup

When you connect your Clarett 2Pre USB to your computer for the first time, you will need to select it as the audio input/output device.

- Mac OS: selection is made in **System Preferences** > **Sound**: select the Focusrite device on both the **Input** and **Output** pages.
- Windows: selection is made in **Control Panel** > **Sound**: right-click on the Focusrite device and select **Set as Default Device** in both **Recording** and **Playback** tabs.

In case of difficulty, full details of how to select the Clarett 2Pre USB as the audio device on all operating systems can be found at focusrite.com/get-started/clarett-2PreUSB.

On all subsequent connections, your OS should automatically select the Clarett 2Pre USB as the default audio device.

Audio Setup in your DAW

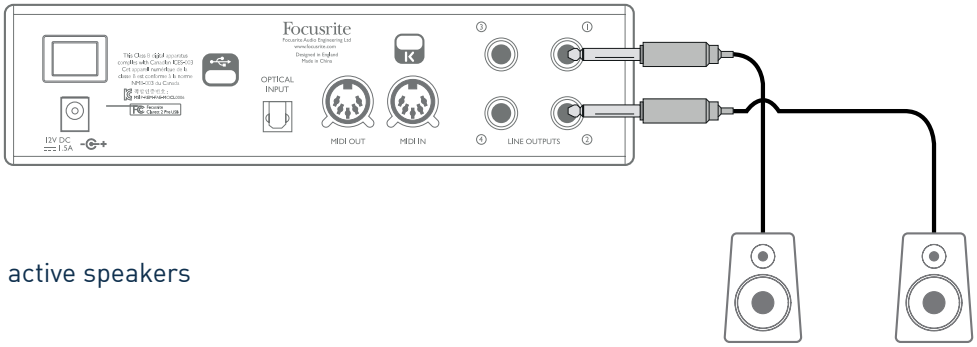
After installing the drivers and connecting the hardware, you can use the Clarett 2Pre USB with the DAW of your choice.

Your DAW may not automatically select the Clarett 2Pre USB as its default I/O device. In this case, you must manually select the driver on your DAW's **Audio Setup*** page, and select **Focusrite 2Pre USB** (Mac) or **Focusrite USB ASIO** (Windows). Please refer to your DAW's documentation or Help files if you are unsure where to select the Clarett 2Pre USB as your audio device.

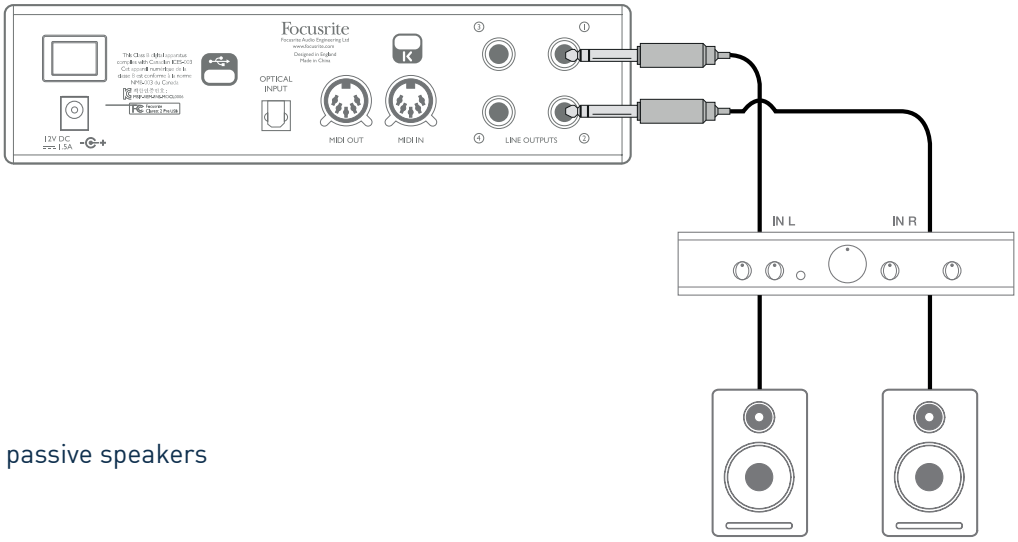
* Typical name – page names may vary with DAW

Connecting Clarett 2Pre USB to loudspeakers

The 1/4" jack **LINE OUTPUTS 1** and **2** on the rear panel will normally be used to drive monitoring speakers. Self-powered monitors incorporate internal amplifiers, and may be connected directly. Passive loudspeakers will require a separate stereo amplifier; in this case, the outputs should be connected to the amplifier's inputs.



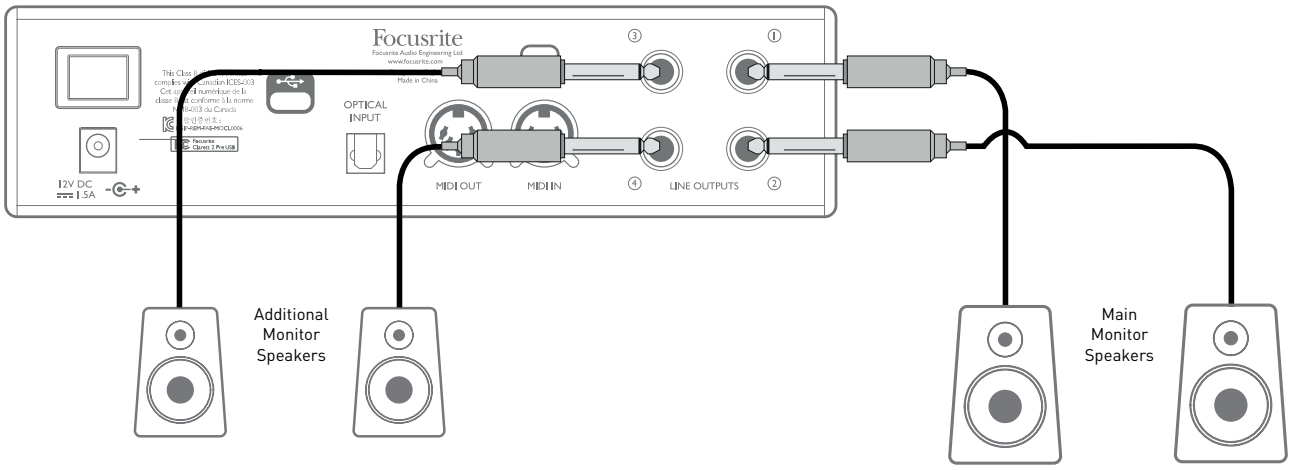
Connecting active speakers



Connecting passive speakers

Professional equipment will generally have balanced inputs. If your amplifier or powered speakers have balanced inputs, use 3-pole (TRS) 1/4" jacks to connect them to the Clarett 2Pre USB.

All the line output connectors are 3-pole (TRS) ¼" jack sockets, and are electronically balanced. Typical consumer (hi-fi) amplifiers and small powered monitors will have unbalanced inputs on RCA sockets.



IMPORTANT:

LINE OUTPUTS 1 and **2** incorporate "anti-thump" circuitry that protects your speakers if the Clarett 2Pre USB is turned on while the speakers (and amplifier if used) are connected and active.

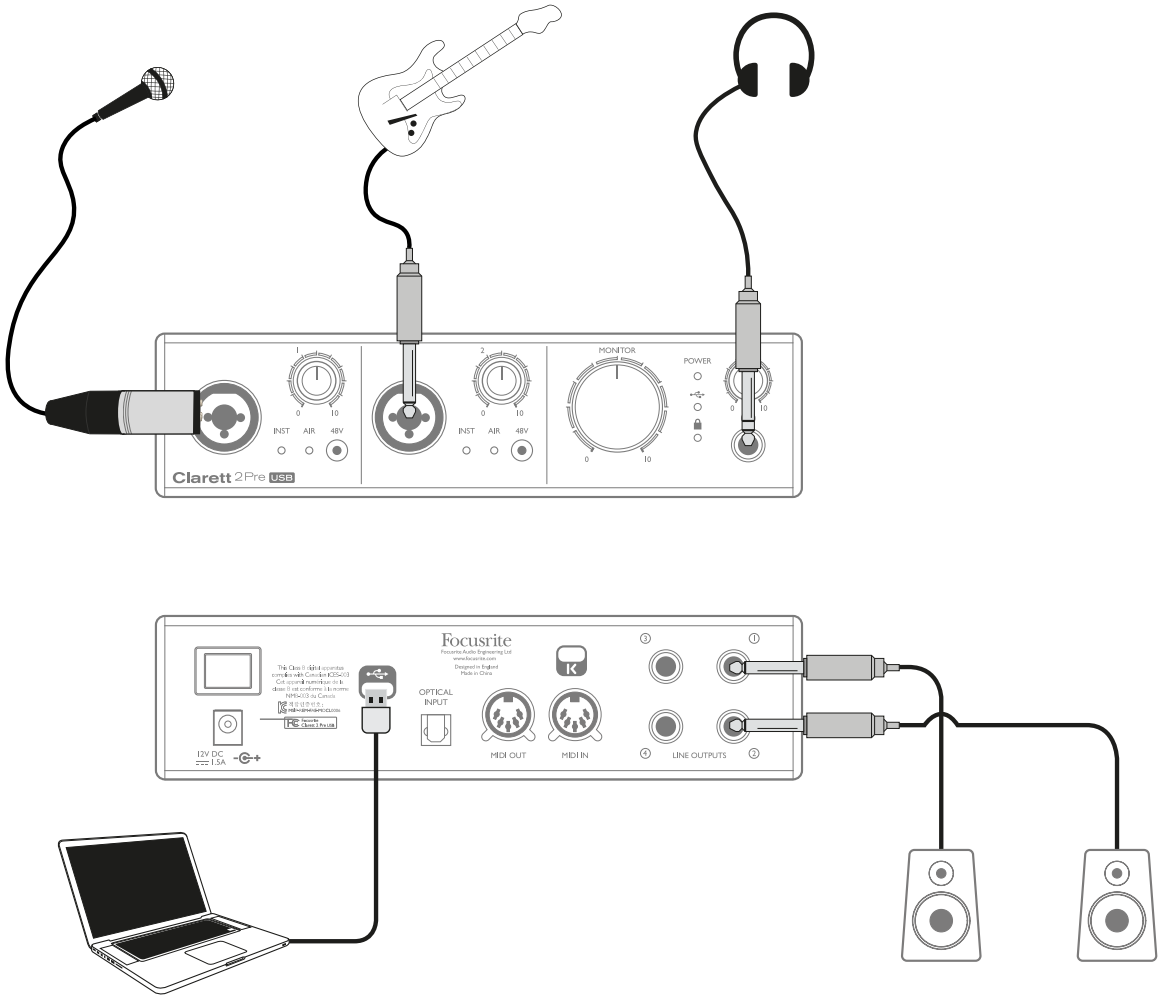
LINE OUTPUTS 3 and **4** do not have this circuitry.

If you're using additional speakers connected to these outputs, we recommend you power your Clarett 2Pre USB on first, then turn on the speakers or power amplifier. But get into the habit of following the general rule in any case - it is *always* good audio practice to turn on a speaker system of any kind *after* turning on the equipment feeding it.

Examples of Usage

The Clarett 2Pre USB is an excellent choice for numerous recording and monitoring applications. Some typical configurations are shown below.

1. Recording a solo artist



This shows a typical configuration for multitrack recording with DAW software on your computer.

In this case, two sources – a microphone and a guitar – are connected to the Clarett 2Pre USB's inputs. As the guitar is connected to Input 2, ensure INST mode is selected for Input 2 from Focusrite Control, and the **INST** LED is illuminated.

The connection to the computer running DAW software is via a USB cable. This will carry all the input and output signals between the DAW and the Clarett 2Pre USB. Once the audio setup is correctly configured in the DAW, each input source will be available for recording.

A mix of the recorded tracks will be available at Line Outputs 1 and 2, so you can hear the results on the speakers.

It is possible the performer may prefer to hear a monitor mix of voice and instruments adjusted to their particular taste. Focusrite Control lets you define a custom monitor mix for the artist and this mix may include the current input signals as well as previously recorded DAW tracks. You can easily route a musician's stereo monitor mix to Outputs 3 and 4, and it will then be available at the Clarett 2Pre USB's headphone socket. If you need to send the monitor mix to more than one musician, you can use the rear panel line outputs to send the mix to a headphone amplifier.

When sourcing monitor mixes from input signals in this way, ensure the DAW channels you are recording are muted, otherwise the musicians will hear themselves "twice", with one signal audibly delayed as an echo.

Please refer to the Focusrite Control User Guide for more details on setting up monitor mixes.

A note about latency

You will probably have heard the term "latency" used in connection with digital audio systems. In the DAW recording application described above, latency is the time it takes for your input signals to pass through your computer and audio software, and back to you.

While not an issue for most recording situations, latency can be a problem for a performer who wishes to record while monitoring their input signals. This might be the case if you need to increase your buffer size, which could be needed when you record overdubs on a large project using many DAW tracks, software instruments and FX plug-ins.

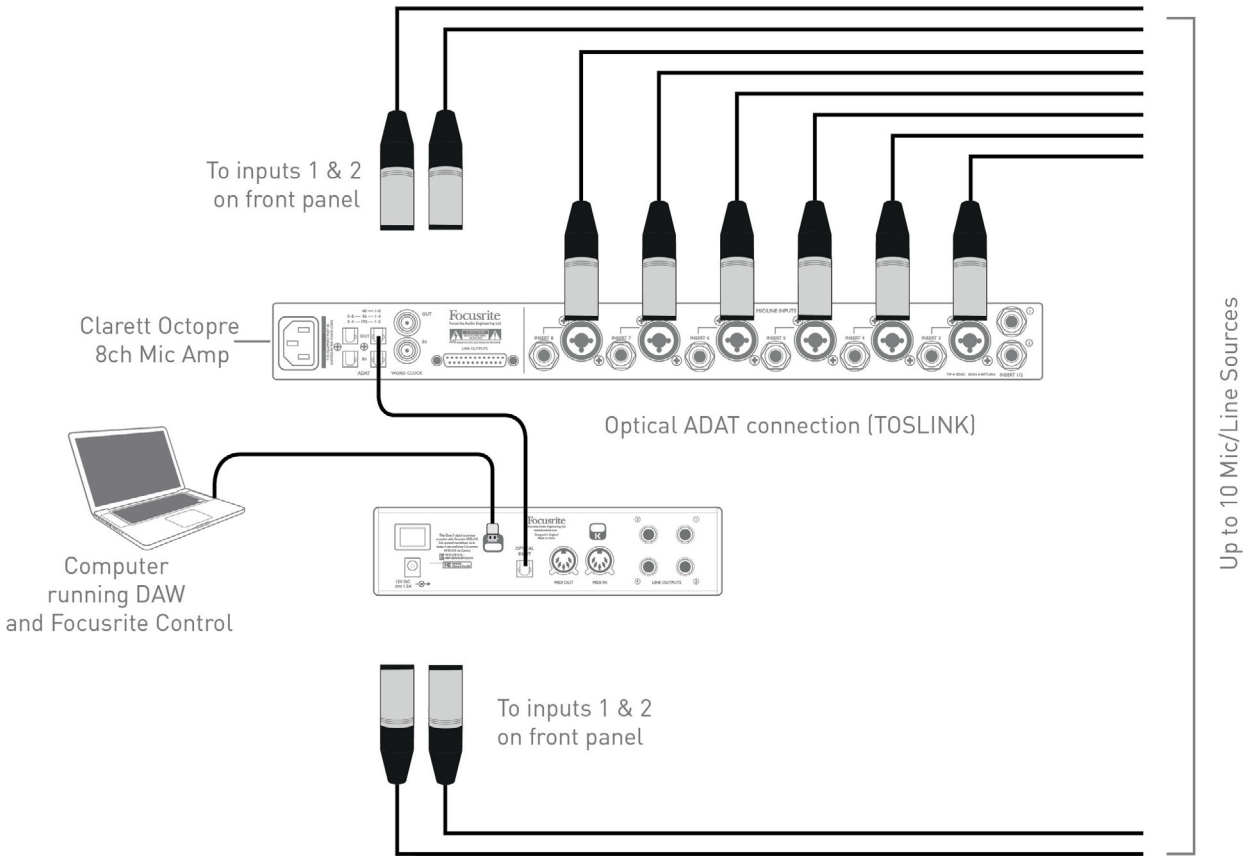
Common symptoms of a buffer setting that is too low could be glitching audio (clicks and pops), or a particularly high CPU load within your DAW (most DAWs have CPU readouts). If you experience this on a Mac, you can raise the buffer size from the DAW application itself; on a Windows PC you will need to change this from the **`ASIO ControlPanel`** which can usually be accessed from your DAW **`Setup Preferences`***.

The Clarett 2Pre, in conjunction with **Focusrite Control**, allows "low latency monitoring", which overcomes this problem. You can route your input signals directly to the Clarett 2Pre's headphone and line outputs. This enables the musicians to hear themselves with ultra-low latency – i.e., effectively in "real time" – along with computer playback. The input signals to the computer are not affected in any way by this setting. However, note that any effects being added to the live instruments by software plug-ins will not be heard in the headphones in this case, although the FX will still be present on the recording.

* Typical name – page names may vary with DAW

2. Using the optical connections

In addition to the two analogue inputs, the Clarett 2Pre USB has an ADAT input port (**OPTICAL IN**) which can provide eight additional audio inputs at 44.1/48 kHz sample rate or four at 88.2/96 kHz. Using a separate 8-channel microphone preamplifier with an ADAT output – such as the Clarett OctoPre – provides a simple and excellent method of expanding the Clarett 2Pre USB's input capability.

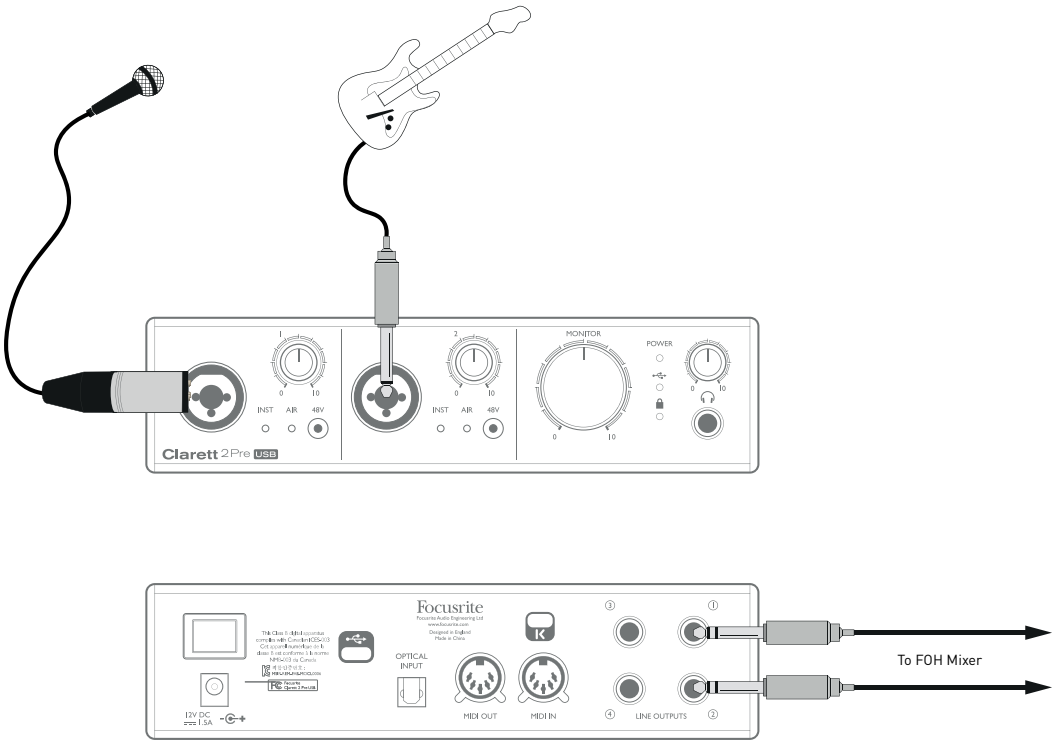


The Clarett OctoPre's **OPTICAL OUT** port is connected to the Clarett 2Pre USB's **OPTICAL IN** port with a single TOSLINK optical cable. The two devices must be synchronised to ensure audio passes cleanly, without clicks and pops. This can be achieved by selecting ADAT as the clock source in the **`Device Settings`** tab within the Focusrite Control software. Both devices must be set to the same sample rate.

The additional inputs realised by use of the optical port may be routed using Focusrite Control in exactly the same manner as the other inputs. The additional inputs can form part of any musician's headphone mix, as required.

3. Using the Clarett 2Pre USB as an on-stage mic pre-amp

The Clarett 2Pre USB automatically stores Focusrite Control settings within the hardware. This feature lets you configure it as a pair of inputs – mic, line or instrument – for use as a stand-alone device. This allows you to use it on stage in a live environment where no computer connection is required, for example.



In the example illustrated, a mic and a guitar are connected to the inputs of the Clarett 2Pre USB; Outputs 1 and 2 go to the main PA system. The performer can adjust the volume of the mic and guitar separately from the front panel.

FOCUSRITE CONTROL - OVERVIEW

Focusrite Control is the software application used with the Clarett 2Pre, which can be downloaded from focusrite.com/downloads. An iOS app allowing WiFi control of **Focusrite Control** is available, from the Apple App Store.

Focusrite Control allows you to create a custom monitor mix for each musician, and specify the routing of all audio signals to the physical audio outputs. Sample rate and clock source selection are also available from **Focusrite Control**.

Focusrite Control has its own, dedicated User Guide, which contains detailed operating instructions for all aspects of the software. This may be downloaded from:
focusrite/downloads

CLARETT 2PRE USB TECHNICAL SPECIFICATIONS

Performance Specifications

Configuration	
Inputs	10: analogue (2), ADAT (8)
Outputs	4: analogue
Mixer	Fully assignable 14-in/4-out mixer
Custom mixes	10 mono
Maximum custom mix inputs	18 mono
Digital Performance	
Supported sample rates	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
Microphone Inputs	
Frequency Response	20 Hz - 35 kHz +/-0.5 dB (Minimum Gain)
Dynamic Range	>119 dB at minimum gain (A-Weighted
THD+N	0.0009%
Noise EIN	>-129 dB (A-weighted)
Maximum input level	+18 dBu (at minimum gain)
Gain Range	+57 dB
Line Inputs	
Frequency Response	20 Hz - 35 kHz +/-0.5 dB (Minimum Gain)
Dynamic Range	>119 dB
THD+N	0.001%
Maximum input level	+26 dBu (at minimum gain)
Gain Range	+57 dB
Instrument Inputs	
Frequency Response	20 Hz - 35 kHz +/-0.5 dB (Minimum Gain)
Dynamic Range	>118 dB
THD+N	0.001%
Maximum input level	+14 dBu (at minimum gain)
Gain Range	+57 dB
Line and Monitor Outputs	
Dynamic Range Outputs (1-2)	119 dB
THD+N Outputs (1-2)	0.00075%
Maximum Output Level (0 dBFS) Balanced Line/TRS Outputs	+18 dBu (at minimum gain)
Headphone Outputs	
Dynamic Range	>115 dB (A-weighted)
THD+N	0.0008%
Maximum Output Level	+16 dBu

Physical and Electrical Characteristics

Analogue Inputs	
Connectors	Combo XLR sockets: Mic/Line/Inst, on front panel
Mic/Line switching	Automatic
Line/Instrument switching	via Focusrite Control
Phantom power	+48 V switches for each input
Analogue Outputs	
Main outputs	4 x balanced ¼" TRS jacks on rear panel
Stereo headphone output	¼" TRS jack on front panel
Main monitor output level control	On front panel
Headphones level control	
Other I/O	
ADAT I/O	TOSLINK optical connectors: 8 channels at 44.1/48 kHz 4 channels at 88.2/96 kHz
Data connector (to Mac)	1 x USB Type C™ connector
MIDI I/O	2 x 5-pin DIN sockets
Weight and Dimensions	
W x D x H	210 mm x 161 mm x 55 mm / 8.27" x 6.34" x 2.17"
Weight	1.36 kg 3.00 lbs

TROUBLESHOOTING

For all troubleshooting queries, please visit the Focusrite Help Centre at:

support.focusrite.com

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