

Clarett 8Pre USB

User Guide

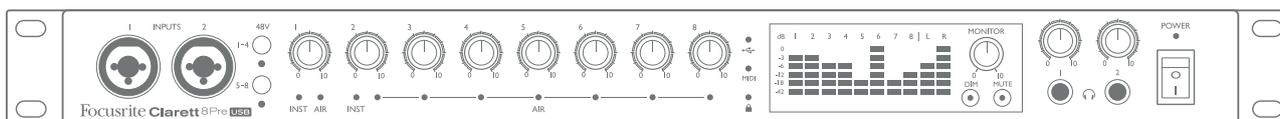


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OVERVIEW

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

WARNING: This equipment is only compatible with USB Type 2.0, 3.0 or 3.1 ports, or Thunderbolt™ 3 ports. More information regarding the compatibility of computer serial ports can be found at:

support.focusrite.com/hc/articles/115002287829-USB-port-clarification-and-compatibility

Introduction

Thank you for purchasing this Clarett 8Pre USB, one of the family of Focusrite professional USB audio interfaces incorporating 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 extremely low latency.

You can also use the Clarett 8Pre 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 recording or a more experienced user, so you are fully aware of all the possibilities the Clarett 8Pre 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 8Pre USB hardware 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 8Pre USB is also a MIDI interface, allowing your computer to connect to other MIDI equipment in your studio.

An important feature of the Clarett 8Pre 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 mic preamps. When recording with good quality microphones, you will notice an enhanced clarity and definition in the important mid 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 8Pre 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 8Pre 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 8Pre 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-8Pre-USB-usb

System Requirements

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

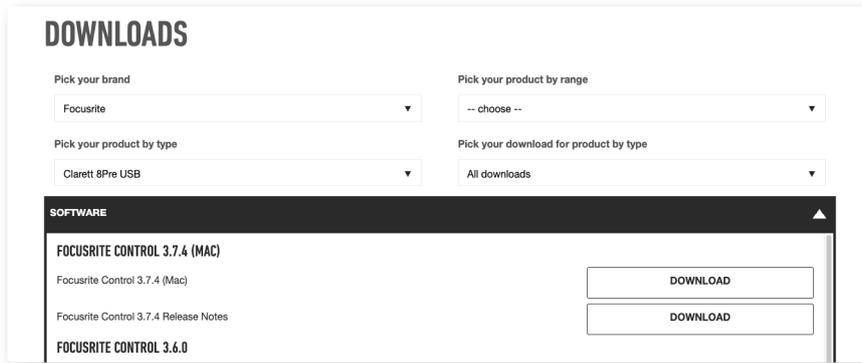
support.focusrite.com

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.

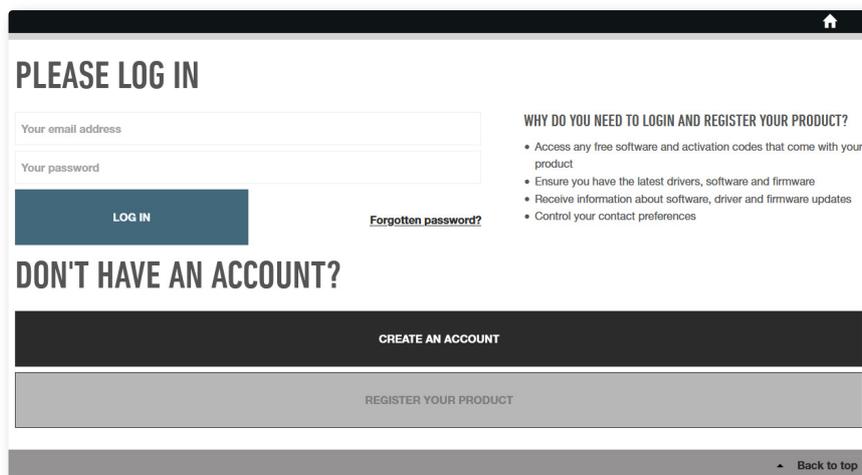
Note that the Windows driver is included within the **Focusrite Control** download. No additional driver is needed for Macs.

Registering your Clarett USB

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

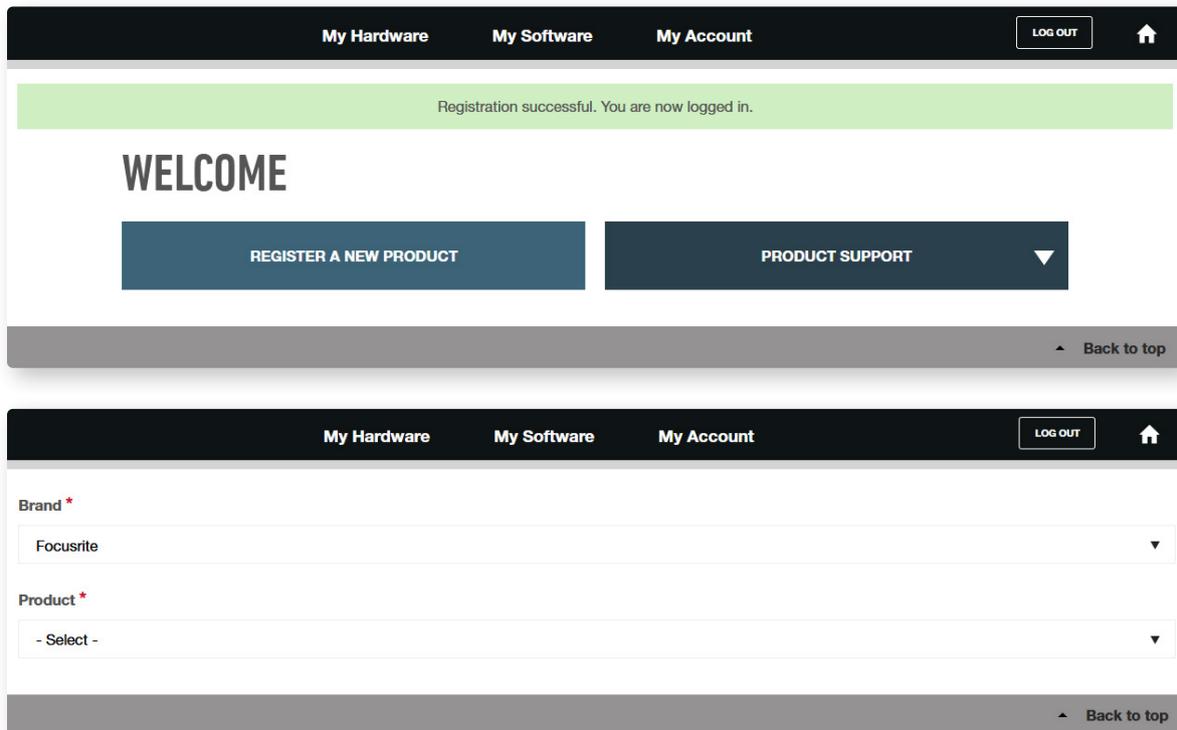
focusrite.com/get-started

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.

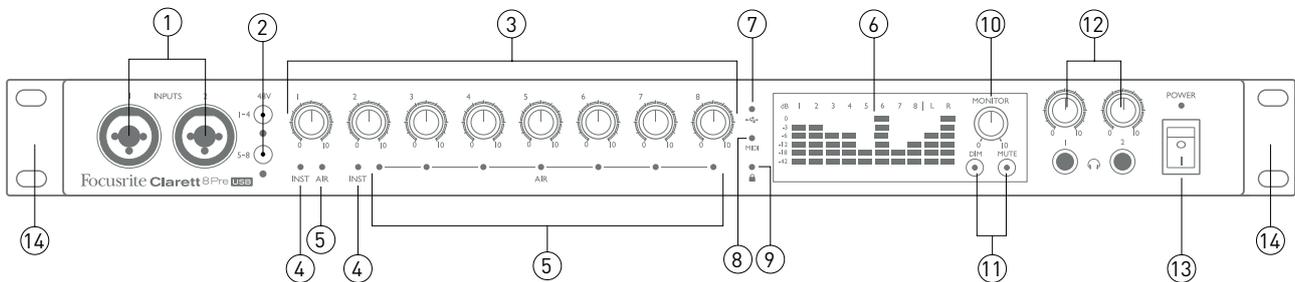
3. If you do have an account, log in and select **REGISTER A NEW PRODUCT**:



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

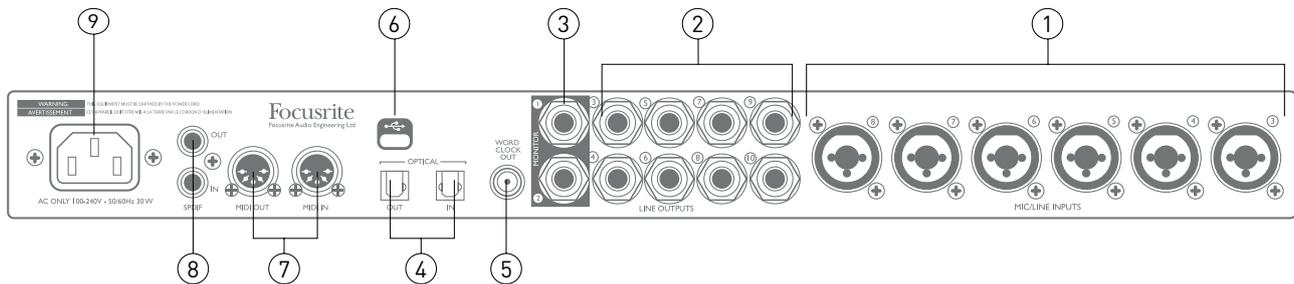


The front panel includes all the input gain and monitoring controls as well as two of the input connectors for Mic, Line and Instrument signals.

1. **INPUTS 1 & 2** – Combo XLR input sockets - connect microphones, instruments (e.g., guitar), or line level signals via XLR or 1/4" jacks as appropriate. 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 1-4 and 5-8 respectively. (Note that inputs 3 to 8 are on the rear panel.) 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 to 8** – eight rotary controls: adjust the input gain for the signals at Inputs 1 to 8.
4. **INST** – two red LEDs which illuminate when Instrument mode is selected for the jack Inputs 1 or 2 from **Focusrite Control** software. When INST is selected, gain range and input impedance are altered (relative to LINE), and the input is made unbalanced. This optimises it for connecting instruments directly via a 2-pole (TS) jack plug. When INST is off, you can connect line level signals. Line level signals may be connected either in balanced form via a 3-pole (TRS) jack or unbalanced, via a 2-pole (TS) jack.
5. **AIR** – eight yellow LEDs – one per input – which illuminate when the AIR function is selected for the input from Focusrite Control. AIR modifies the frequency response of the input stage to model the classic, transformer-based Focusrite ISA mic preamps.
6. Meters – ten 6-segment LED bargraph meters indicating a) the signal levels of the eight analogue input signals (meters **1 to 8**), and b) the signal levels at the **MONITOR 1** and **2** outputs (meters **L** and **R**). The input meters show signal level after the input gain stage, and thus their indication is affected by the gain controls. The output meters show signal level before the monitor level control [10], which therefore does not affect their indication. The LEDs illuminate at -42 (green, "signal present"), -18 and -12 dBFS (green), -6 and -3 dBFS (yellow) and 0 dBFS (red). A level of 0 dBFS implies digital clipping, and should be avoided.
7.  (USB active) – a green LED which illuminates when the unit has established communication with the computer to which it is connected.
8. **MIDI** – a green LED which illuminates when MIDI data is being received at the rear panel MIDI IN port.
9.  (Locked) – a green LED which confirms clock synchronisation, either to the Clarett 8Pre USB's internal clock or to an external digital input.

10. **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 multiple pairs of outputs.
11. **DIM** and **MUTE** – two switches controlling the Clarett 8Pre USB's monitor outputs; **DIM** reduces the output levels by 18 dB, while **MUTE** turns the outputs off. By default, these switches affect the main monitor outputs 1 and 2, but may be configured in Focusrite Control to act on any of the analogue outputs. The switches are internally illuminated (DIM: yellow, MUTE: red) indicating that the function is selected.
12.  (Headphones) **1** and **2** – connect one or two pairs of stereo headphones at the two ¼" TRS jack sockets below the controls. The headphone outputs always carry the signals currently routed to analogue outputs 7/8 and 9/10 (as stereo pairs) in Focusrite Control.
13. **POWER** – AC power switch and LED.
14. Rack ears for mounting the Clarett 8Pre USB in a standard 19" equipment rack.

Rear Panel



- MIC/LINE INPUTS 3 to 8** – Combo XLR input sockets - connect further microphones or line level signals via XLR or ¼" jacks as appropriate. Either ¼" TRS (balanced) or TS (unbalanced) jack plugs can be used for line level signals.
- LINE OUTPUTS 3 to 10** – eight balanced analogue line outputs on ¼" jack sockets; use TRS jacks for a balanced connection or TS jacks for unbalanced. The signals routed to these outputs are defined in Focusrite Control, and can typically be used for driving alternative speakers (i.e., midfield, nearfield, etc.), the additional speakers in a multichannel monitoring system, or to send audio to outboard FX processors.
- MONITOR 1 and 2** – two balanced analogue line outputs on ¼" jack sockets; use TRS jacks for a balanced connection or TS jacks for unbalanced. These are also Line Outputs 1 and 2, and will generally be used for driving the main L and R speakers of your monitoring system. However, the routing of signals to outputs may be customised in Focusrite Control.
- OPTICAL IN and OUT** – two TOSLINK connectors, each 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 and outputs (respectively) to/from the Clarett 8Pre USB. The **OPTICAL IN** connector may alternatively be configured to receive a two-channel S/PDIF signal from an external source equipped with an optical S/PDIF output. You can select this option from Focusrite Control.
- WORD CLOCK OUTPUT** – a BNC connector carrying the Clarett 8Pre USB's word clock; this may be used to synchronise other digital audio equipment.
-  – USB connector; connect the Clarett 8Pre USB to your computer with a USB cable.
- 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.
- SPDIF IN and OUT** – two phono (RCA) sockets carrying two-channel digital audio signals in or out of the Clarett 8Pre USB in S/PDIF format. Like all the other inputs and outputs, the routing of S/PDIF signals may be customised in Focusrite Control.
- AC mains – standard IEC receptacle. The Clarett 8Pre USB is fitted with a "Universal" power supply, and will run from any AC mains voltage from 100 to 240 V, at 50 or 60 Hz.

Connecting your Clarett 8Pre USB

The Clarett 8Pre USB should be connected to AC mains with the supplied AC power cable. Plug the IEC connector into the rear panel IEC receptacle and turn the unit on with the front panel power switch.

The Clarett 8Pre USB has a USB-C™ port (on the rear panel). Once the software installation is complete, connect the Clarett 8Pre USB to your computer using a USB cable.

Computer audio setup

When you connect your Clarett 8Pre USB to your computer for the first time, you will need to select the Clarett 8Pre USB 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 8Pre USB as the audio device on all operating systems can be found at focusrite.com/get-started/clarett-8Pre-USB.

On all subsequent connections, your OS should automatically select the Clarett 8Pre USB as the default audio device.

Audio Setup in your DAW

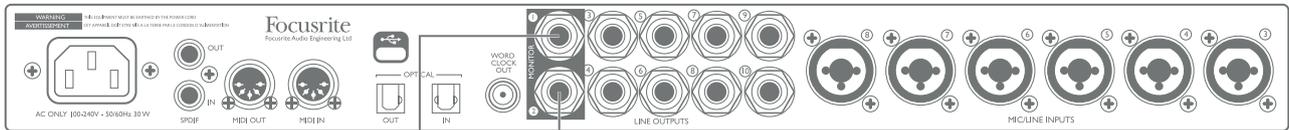
After installing the drivers and connecting the hardware, you can use the Clarett 8Pre USB with the DAW of your choice.

Your DAW may not automatically select the Clarett 8Pre 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 8Pre 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 8Pre USB as your audio device.

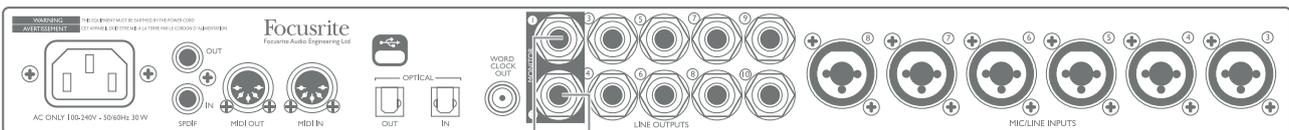
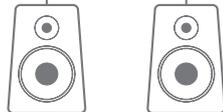
* Typical name – page names may vary with DAW

Connecting Clarett 8Pre USB to loudspeakers

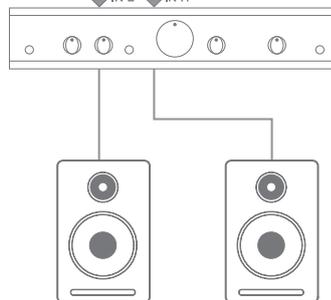
The 1/4" jack **MONITOR** outputs on the rear panel (Line Outputs 1 and 2) will normally be used to drive monitoring speakers. Self-powered monitors (e.g., typical computer speakers) incorporate internal amplifiers, and may be connected directly. Passive loudspeakers will require a separate stereo amplifier;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



Connecting active speakers



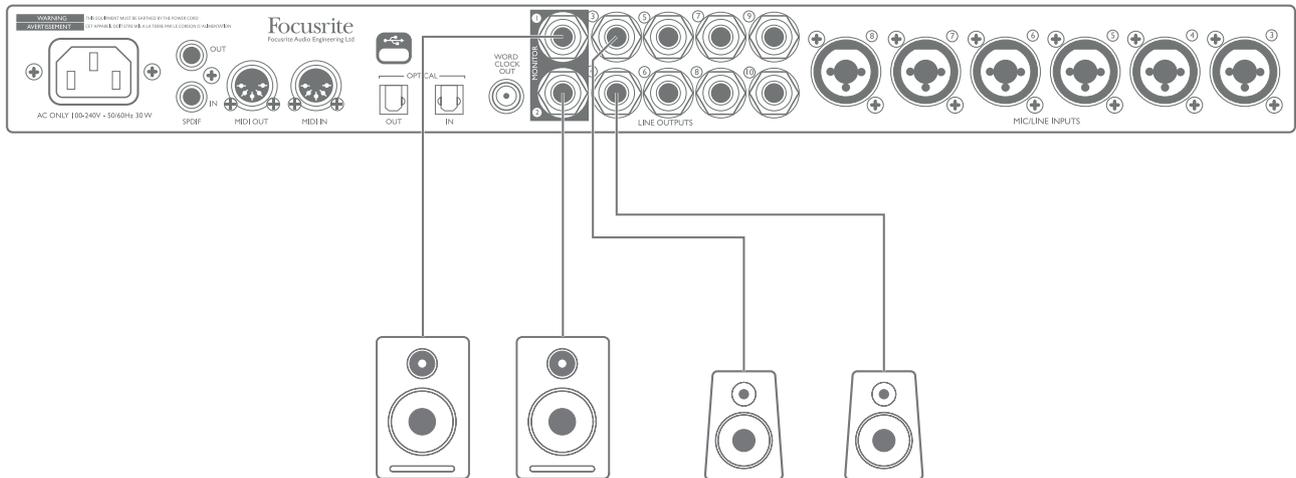
Connecting passive speakers



All the line output connectors are 3-pole (TRS) 1/4" jack sockets, and are electronically balanced. Typical consumer (hi-fi) amplifiers and small powered monitors will have unbalanced inputs, either on phono (RCA) sockets, or via a 3.5 mm 3-pole jack plug intended for direct connection to a computer. In either case, use a suitable connecting cable with jack plugs at one end.

Professional power amplifiers will generally have balanced inputs.

When mixing, you can connect several pairs of additional speakers (mid-field, near-field, etc.) to pairs of outputs and use Focusrite Control to route your mix to the different outputs as desired, to check your mix on the different types of speaker.



IMPORTANT:

MONITOR 1 and **2** outputs incorporate “anti-thump” circuitry that protects your speakers if the Clarett 8Pre USB is turned on while the speakers (and amplifier if used) are connected and active.

LINE OUTPUTS 3 to **10** do not have this circuitry.

If you’re using additional speakers connected to these outputs, we recommend you power your Clarett 8Pre 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.

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.

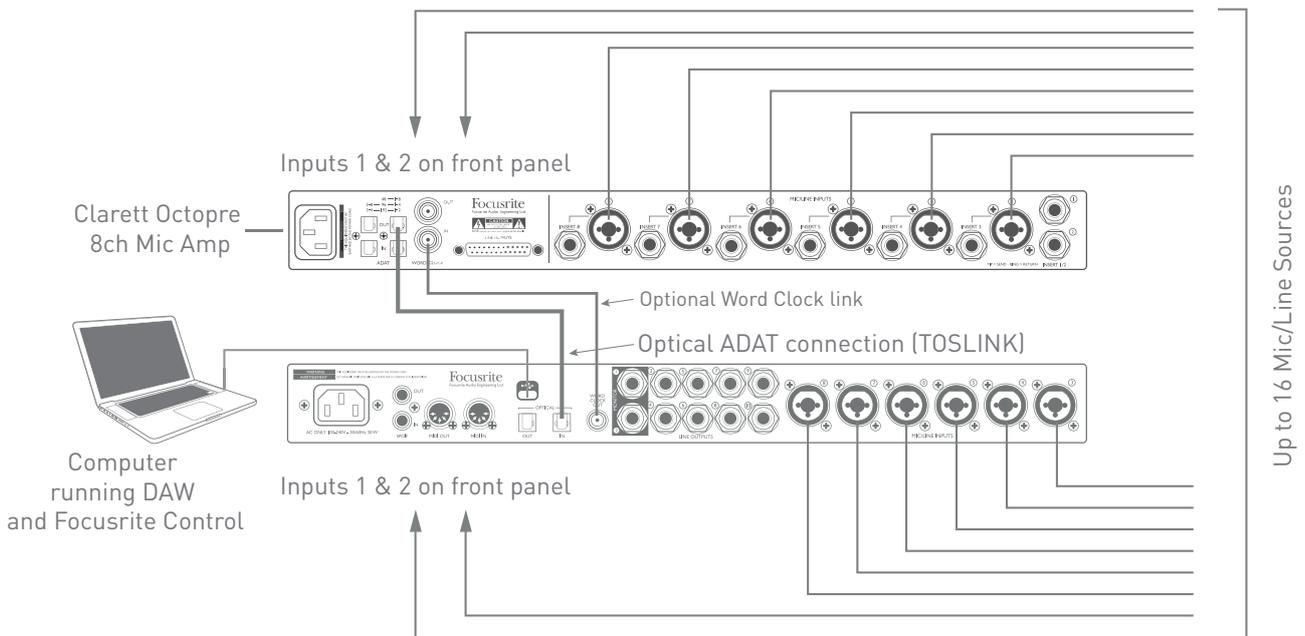
Common symptoms of a buffer setting that is too low could be glitching audio (clicks and pops), or a particularly high CPU load within your DAW (most DAWs have CPU readouts). If you experience this on a Mac, you can raise the buffer size from the DAW application itself; on a Windows PC you will need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

The Clarett 8Pre USB, in conjunction with **Focusrite Control**, allows “low latency monitoring”, which overcomes this problem. You can route your input signals directly to the Clarett 8Pre USB’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 eight analogue inputs, the Clarett 8Pre USB has an ADAT input port (**OPTICAL IN**) which can provide an additional 8 audio inputs at 44.1/48 kHz sample rate, or four at 88.2/96 kHz. Using a separate 8-channel microphone preamplifier equipped with an ADAT output – such as the Focusrite Clarett OctoPre – provides a simple and excellent method of expanding the Clarett 8Pre USB’s input capability.



The Clarett OctoPre’s **OPTICAL OUT** port is connected to the Clarett 8Pre USB’s **OPTICAL IN** port with a single TOSLINK optical cable. Stable word clock synchronisation may be achieved by connecting the Clarett 8Pre USB’s **WORD CLOCK** output to the Clarett OctoPre’s **WORD CLOCK IN** and setting the Clarett OctoPre to use this as its sync source; alternatively, the Clarett 8Pre USB may be set (in Focusrite Control) to synchronise via the ADAT format signal at the **OPTICAL IN** port.

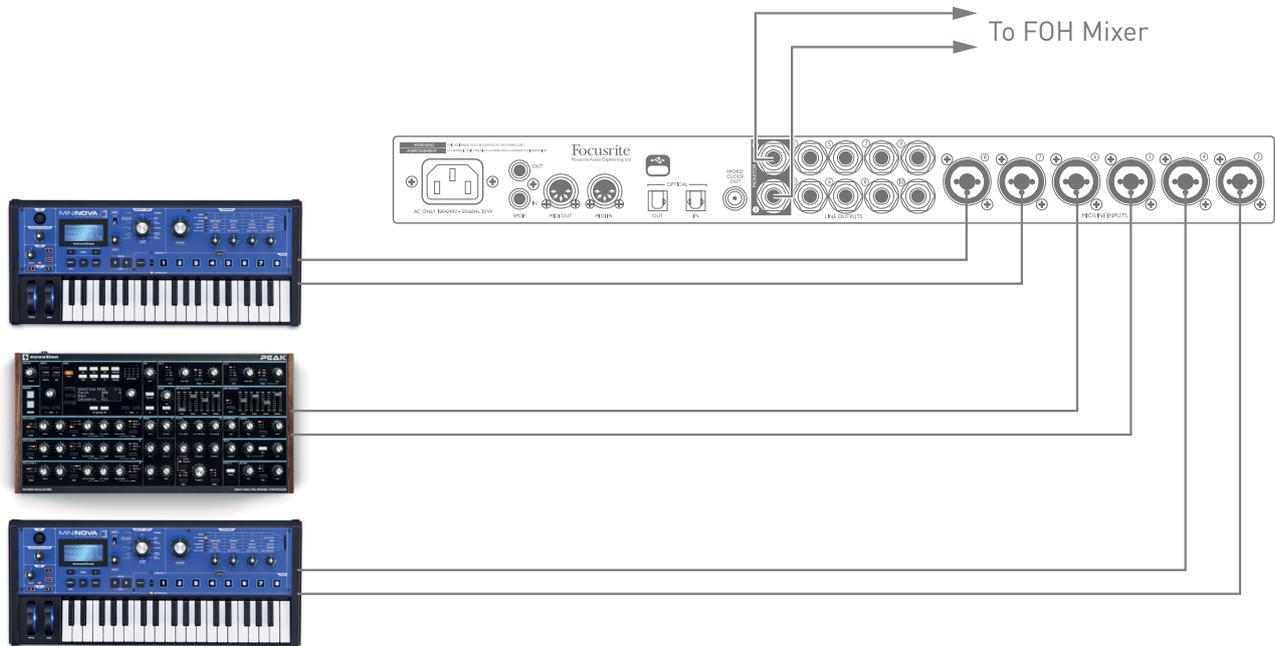
NOTE: when interconnecting two digital devices by any method, always ensure that both are set to use the same sample rate.

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.

If a suitable D-to-A converter with an ADAT input is available, the **OPTICAL OUT** port may be used in the opposite manner; for example, additional outputs from the DAW may be converted into the analogue domain to allow the use of an external hardware mixing console to mix down a large number of DAW tracks.

3. Using the Clarett 8Pre USB as a stand-alone mixer

The Clarett 8Pre USB has the ability to store a mix configuration defined in Focusrite Control within the hardware. This feature lets you configure it – for example, as an on-stage keyboard mixer – using your computer, and then upload the configuration to the device itself. Then you can use the Clarett 8Pre USB as a simple, rack-mounting mixer as part of your keyboard rig to control the overall mix of multiple keyboards.



In the example illustrated, three stereo keyboards/synths are connected to the rear panel inputs of the Clarett 8Pre USB; Outputs 3 and 4 go to the main PA system. The performer can adjust the volume of the individual keyboards from the front panel; he/she can also independently adjust the level they hear the mixed keyboards at through the speakers.

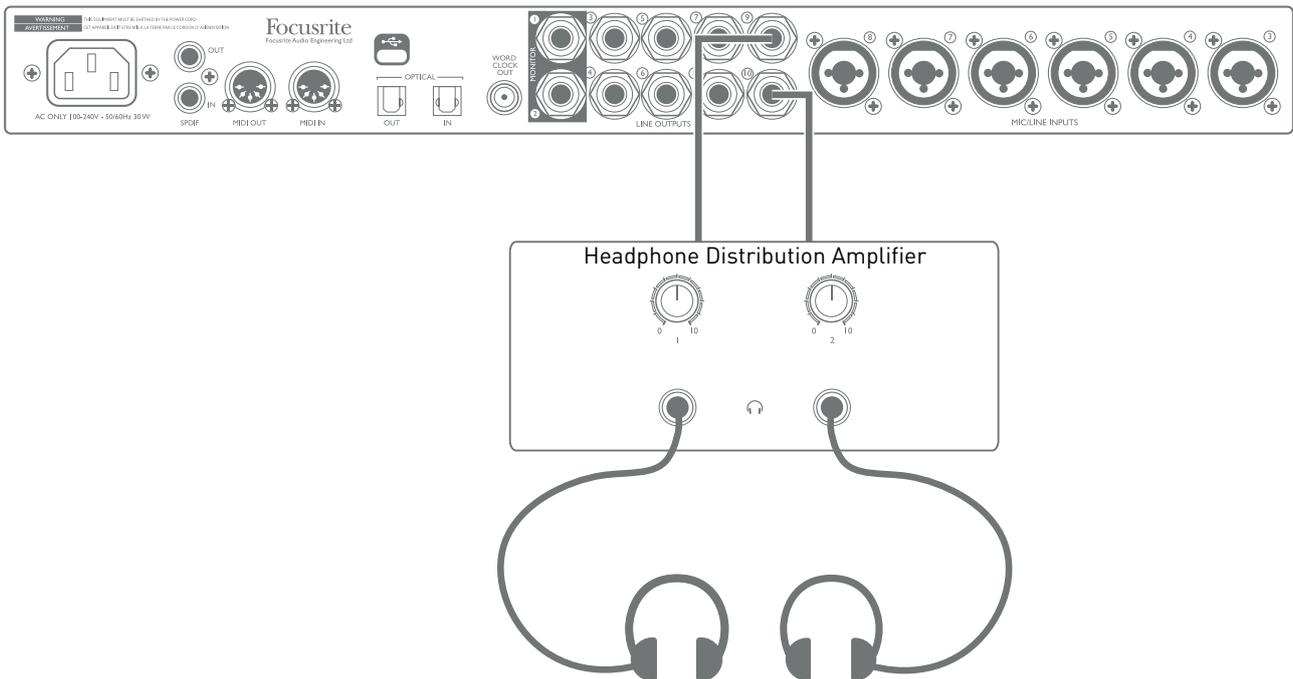
4. Providing foldback while recording

While recording, musicians will often prefer to hear themselves along with the other players, and when overdubbing, the tracks that have already been recorded. A mix created for this purpose, which the musician can hear on headphones while performing, is called foldback.

Focusrite Control lets you define several different mixes, each of which may be either mono or stereo, and which may be routed to any of the Clarett 8Pre USB's outputs. This enables individual musicians to have a foldback mix optimised to their own requirements. In this way, each foldback feed can be made up from a different mix of a musician's own input, the live contributions from the other performers, and DAW tracks which have already been recorded. See the Focusrite Control Guide for details of how to configure different mixes, and how to route them to the Clarett 8Pre USB's various outputs.

Each of the headphone outputs on the front panel initially provides a default mix: Headphone 1's mix is always the same stereo mix routed to Line Outputs 7 and 8, while Headphone 2's mix is always the same stereo mix routed to Line Outputs 9 and 10. You can adjust the content of both mixes in Focusrite Control - that for Outputs 7/8 defines what is heard by Headphones 1, and that for Outputs 9/10 defines what is heard by Headphones 2.

Either or both of these may be used for foldback mixes; each output can drive a pair of headphones directly. This is the easiest method, and has the advantage that the mixes are stereo. If you need to drive additional pairs of headphones, you'll need to include an external headphone amplifier as part of your set-up:



Always remember - when sourcing monitor mixes from input signals, ensure that the DAW channels on which you are recording are muted, otherwise the musicians will hear themselves "twice", with one signal audibly delayed as an echo.

FOCUSRITE CONTROL - OVERVIEW

Focusrite Control is the software application used with the Clarett 8Pre USB, which can be downloaded from focusrite.com/downloads. An iOS app allowing WiFi control of **Focusrite Control** is also 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 has detailed operating instructions for all aspects of the software. This may be downloaded from:

focusrite.com/downloads

CLARETT 8Pre USB TECHNICAL SPECIFICATIONS

Performance Specifications

Configuration	
Inputs	18: analogue (8), S/PDIF (2), ADAT (8)
Outputs	8: analogue (4), S/PDIF (2), HP (2)
Mixer	Fully assignable 26-in/10-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 at minimum gain
Dynamic Range	118 dB
THD+N	<0.001%
Noise EIN	<-129 dBu (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 at minimum gain
Dynamic Range	118 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 at minimum gain
Dynamic Range	117 dB
THD+N	0.001%
Maximum input level	+14 dBu at minimum gain
Gain Range	57 dB
Line & Monitor Outputs	
Dynamic Range	118 dB
THD+N	0.0007%
Maximum Output Level (0 dBFS)	+18 dBu at minimum gain, balanced line/TRS outputs
Headphone Outputs	
Dynamic Range	115 dB (A-Weighted)
THD+N	0.0009%
Maximum Output Level	+15 dBu

Physical and Electrical Characteristics

Analogue Inputs Inputs 1 & 2	
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 inputs 1 to 4, 5 to 8
Analogue Inputs 3 to 8	
Connectors	Combo XLR sockets: Mic/Line, on rear panel
Mic/Line switching	Automatic
Phantom power	+48 V switches for inputs 1 to 4, 5 to 8
Analogue Outputs	
Main outputs	10 x balanced ¼" TRS jacks (on rear panel)
Stereo headphone outputs	2 x ¼" TRS jack on front panel
Main monitor output level control	On front panel
Headphones level controls	
Other I/O	
ADAT Input	2 x TOSLINK optical connectors: 8 channels at 44.1/48 kHz 4 channels at 88.2/96 kHz
S/PDIF I/O	2 x phono (RCA); can be re-assigned to ADAT ports in software
Data connector (to computer)	1 x USB-C™ connector
MIDI I/O	2 x 5-pin DIN sockets
Weight and Dimensions	
W x D x H	482.5 mm x 43.9 mm x 291 mm / 19" x 1.73" x 11.46"
Weight	4.08 kg 9.00 lbs

TROUBLESHOOTING

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

support.focusrite.com

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