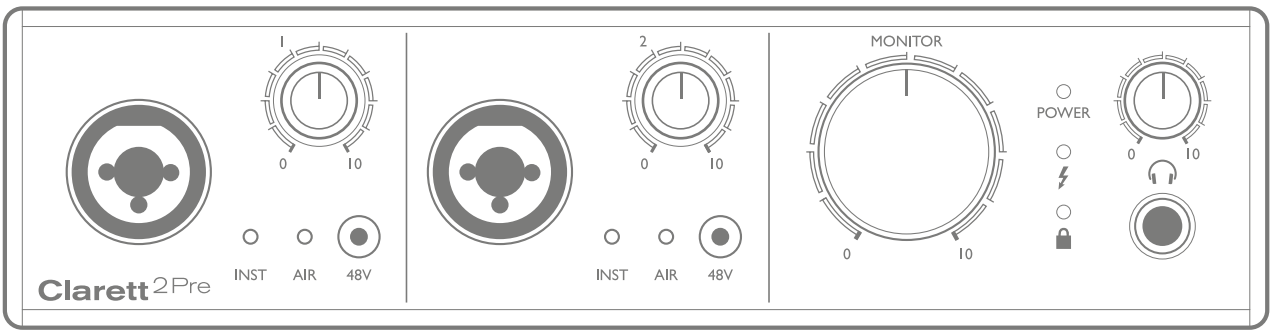
Clarett 2Pre

User Guide



Focusrite®

www.focusrite.com

FFFA001255

TABLE OF CONTENTS

OVERVIEW . . . 3

Introduction . . . 3

Features . . . 4

Box Contents . . . 4

System Requirements . . . 4

GETTING STARTED . . . 5

Software Installation . . . 5

Hardware Features . . . 6

Front Panel . . . 6

Rear Panel . . . 7

Connecting your Clarett 2Pre . . . 8

Computer audio setup . . . 8

Audio Setup in your DAW . . . 8

Connecting Clarett 2Pre to loudspeakers . . . 9

Examples of Usage . . . 11

1. Recording a solo artist . . . 11

2. Using the optical connections . . . 13

3. Using the Clarett 2Pre as an on-stage mic pre-amp . . . 14

FOCUSRITE CONTROL - OVERVIEW . . . 15

CLARETT 2PRE TECHNICAL SPECIFICATIONS . . . 16

Performance Specifications . . . 16

Physical and Electrical Characteristics . . . 17

TROUBLESHOOTING . . . 18

COPYRIGHT AND LEGAL NOTICES . . . 18

OVERVIEW

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

WARNING: This equipment must only be connected to Thunderbolt™ ports.

Introduction

Thank you for purchasing this Clarett 2Pre, one of the family of Focusrite professional Thunderbolt™ 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 extremely low latency.

You can also use the Clarett 2Pre as a "stand-alone" interface on-stage, bringing the benefits of Focusrite's high-quality analogue mic pres 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 that you take the time to read through the Guide, whether you're new to computer-based recording or a more experienced user, so that you are fully aware of all the possibilities that the Clarett 2Pre has to offer.

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

If either of the Guides do not provide the information you need, be sure to consult http://www.focusrite.com/answerbase, which contains a comprehensive collection of answers to common technical support queries.

Features

The Clarett 2Pre 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 Thunderbolt™ 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 that you wish to use. Although all inputs and outputs on the Clarett 2Pre are routed directly to and from your DAW for recording and playback, you can configure the routing within your DAW, or within the Focusrite Control application, in order to meet your precise needs.

The Clarett 2Pre also has connectors for sending and receiving MIDI data; this lets you use it as a MIDI interface between your computer and other items of MIDI equipment in your system.

An important feature of the Clarett 2Pre is the new design of analogue preamplifier. 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 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 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.

All inputs on the Clarett 2Pre are routed directly to your DAW software for recording, but Focusrite Control also allows you to route these signals internally within the device to the outputs so that you can monitor the audio signals with ultra-low latency - before they arrive at your DAW, should you need to do so.

Box Contents

Along with your Clarett 2Pre you should have:

- External 12 V DC mains Power Supply Unit (PSU)
- Important Information, with codes for accessing the following on-line resources:
    - Drivers as required
    - 1 GB of Loopmasters sounds and samples
    - Focusrite Control
    - Focusrite Red 2/Red 3 Plug-in Suite

System Requirements

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

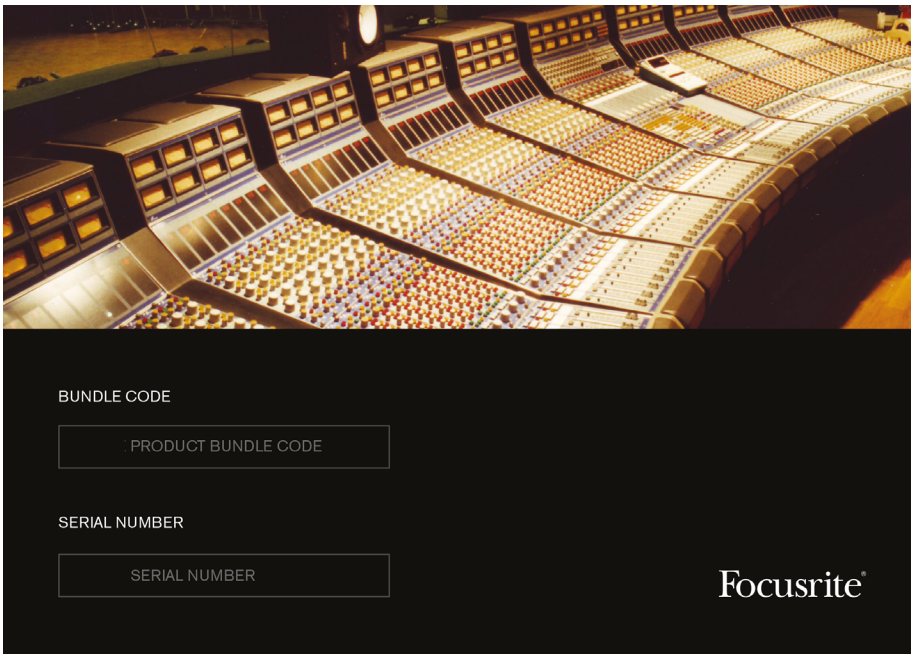
www.focusrite.com/clarett/compatibility

GETTING STARTED

IMPORTANT: Please ensure that you install the Clarett 2Pre drivers before connecting the interface to your computer.

Software Installation

All software required by the Clarett 2Pre, including several powerful and useful extras, is available for download from the Focusrite website (www.focusrite.com/register). The Important Information provided with your Clarett 2Pre contains validation codes which you will need to enter at the above web address. This procedure ensures that you will have the most up-to-date software versions.



1. Using your usual browser, go to www.focusrite.com/register/.

2. Follow the on-screen instructions, entering the "Bundle Code" into the form where prompted. Your Bundle Code can be found on the Important Information packed with the unit.

3. You will then be able to access the "My Products" page, where the software products to which your registration entitles you are available for download, complete with activation codes where applicable.

4. Download and install the Clarett 2Pre drivers. Follow all on-screen instructions.

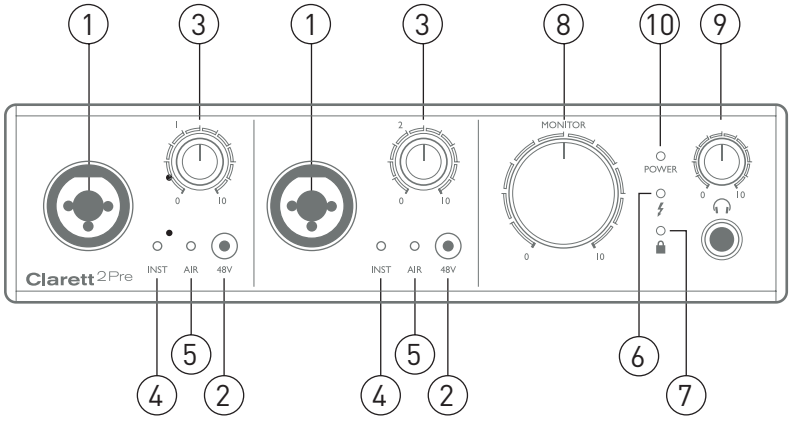
5. When the installation is complete, you will be prompted to restart your computer.

6. After restart, connect the Clarett 2Pre to your computer with a Thunderbolt cable.

7. If you are having trouble getting started please watch our video guide here - www.focusrite.com/get-started

Hardware Features

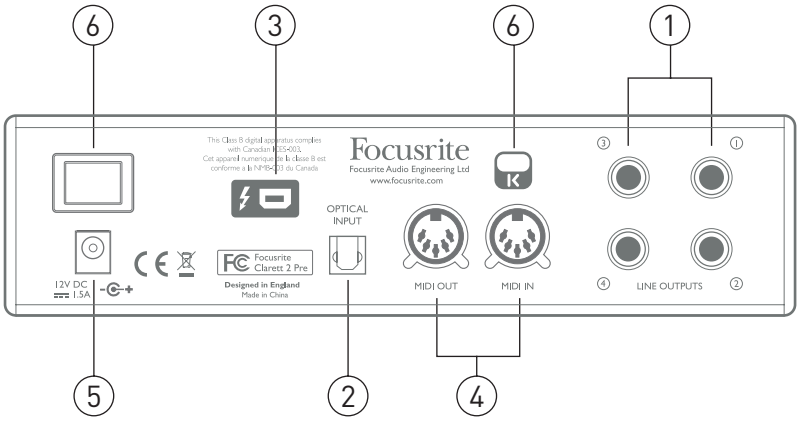
Front Panel



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 for each channel - connect microphones, instruments (e.g., guitar), or line level signals via XLR or ¼" 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 XLR contacts of the Combi connectors for mic inputs 1 and 2 respectively. The switches each have an associated red LED indicating that phantom power is selected.
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 -24 dBFS (i.e., 'signal present'), the ring then turns red when signal level reaches 0 dBFS.
4. **INST** – two red LEDs which illuminate when INST mode is selected for the jack contacts of Inputs 1 or 2 from Focusrite Control software. When INST is selected, the gain range and input impedance are altered (relative to LINE), and the input is made unbalanced. This optimises it for the direct connection of instruments via a 2-pole (TS) jack plug. When INST is off, the inputs are suitable for the connection of 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** – 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 mic preamps.
6. ⚡ (Thunderbolt active) – a green LED which illuminates when the unit has established a connection with the computer to which it is connected.
7. 🔒 (Locked) – a green LED which confirms clock synchronisation, either to the Clarett 8Pre's internal clock or to an 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 any of the unit's four 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 that 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 driving alternative speakers (i.e., midfield, nearfield, etc.) or to send audio to 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, four channels at 88.2/96 kHz or two channels at 176.4/192 kHz. These are simply additional inputs to the Clarett 2Pre.
3. – Thunderbolt™ connector; connect the Clarett 2Pre to your computer with a suitable Thunderbolt™ cable.
4. **MIDI IN** and **MIDI OUT** – standard 5-pin DIN sockets for connection of external MIDI equipment, allowing MIDI data to/from your computer to be received and distributed to additional MIDI devices.
5. External DC power input – power the Clarett 2Pre 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. Please see http://www.kensington.com/kensington/us/us/s/1704/kensington-security-slot.aspx for further information on how to use this feature.

Connecting your Clarett 2Pre

> **IMPORTANT:** Before you connect the Clarett 2Pre to your computer, please complete the software installation according to the instructions on page 5. This will ensure that the hardware uses the correct drivers, and will prevent unexpected behaviour.

The Clarett 2Pre must be powered using the supplied AC adaptor (PSU). Plug the coaxial connector on the two-core cable on the PSU into the rear panel power socket and turn the unit on with the power switch.

The Clarett 2Pre has a Thunderbolt™ port (on the rear panel). Once the software installation is complete, simply connect the Clarett 2Pre to your computer using a Thunderbolt™ cable.

Computer audio setup

Your OS should automatically select the Clarett 2Pre as the default audio device. You can check that this selection has been made correctly, if you wish. Details of how to do this on various operating systems can be found at www.focusrite.com/get-started/clarett-2Pre.

Audio Setup in your DAW

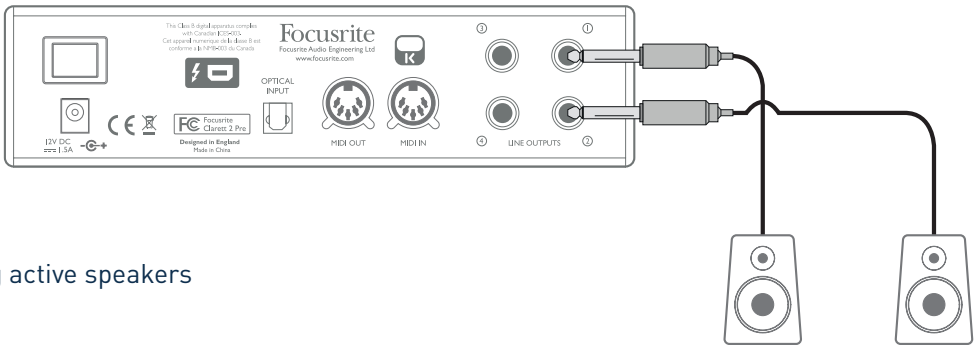
After installing the drivers and connecting the hardware, you can start using the Clarett 2Pre with the DAW of your choice.

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

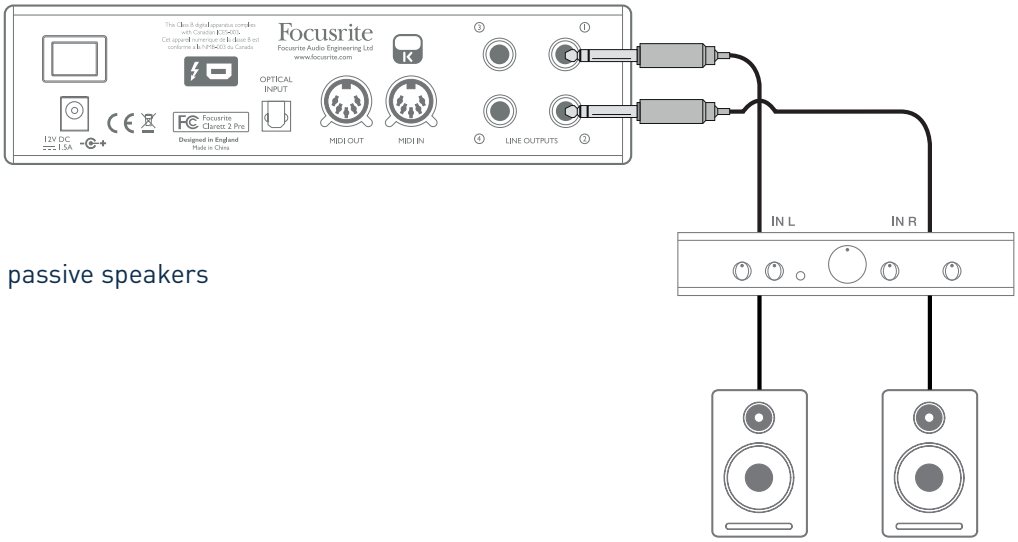
* Typical name – page names may vary with DAW

Connecting Clarett 2Pre 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 (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 outputs should be connected to the amplifier's inputs.



Connecting active speakers

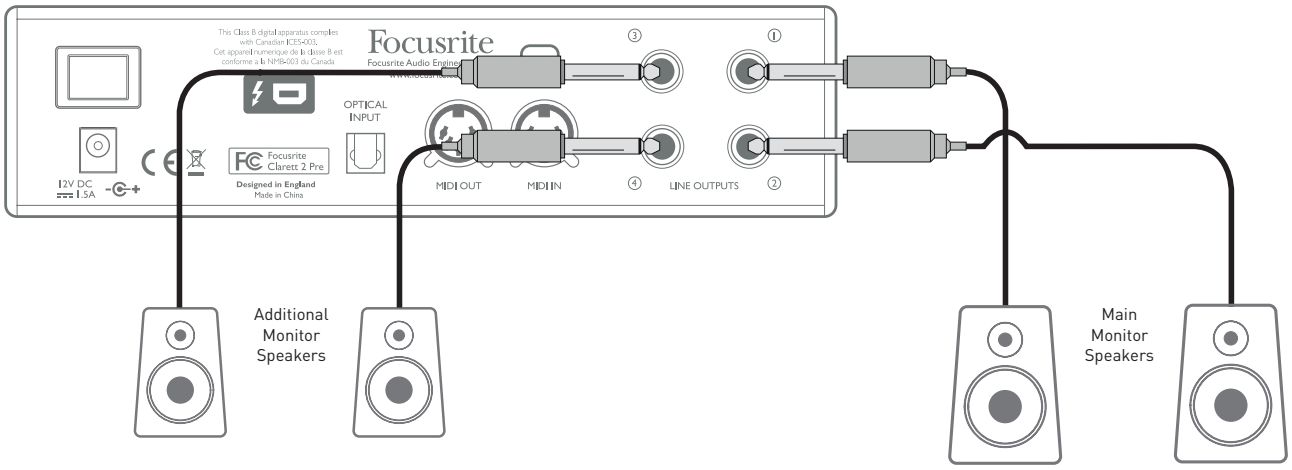


Connecting passive speakers

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 Clarett2Pre.

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, 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.

When mixing, you can connect an additional pair of reference monitor speakers to **LINE OUTPUTS 3** and **4** allowing you to check your mix on different types of speaker. By default, these outputs do not carry the same stereo signal as **LINE OUTPUTS 1** and **2**. If you wish, you can use Focusrite Control to route the same stereo signal feeding **LINE OUTPUTS 1** and **2** to these outputs.



IMPORTANT:

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

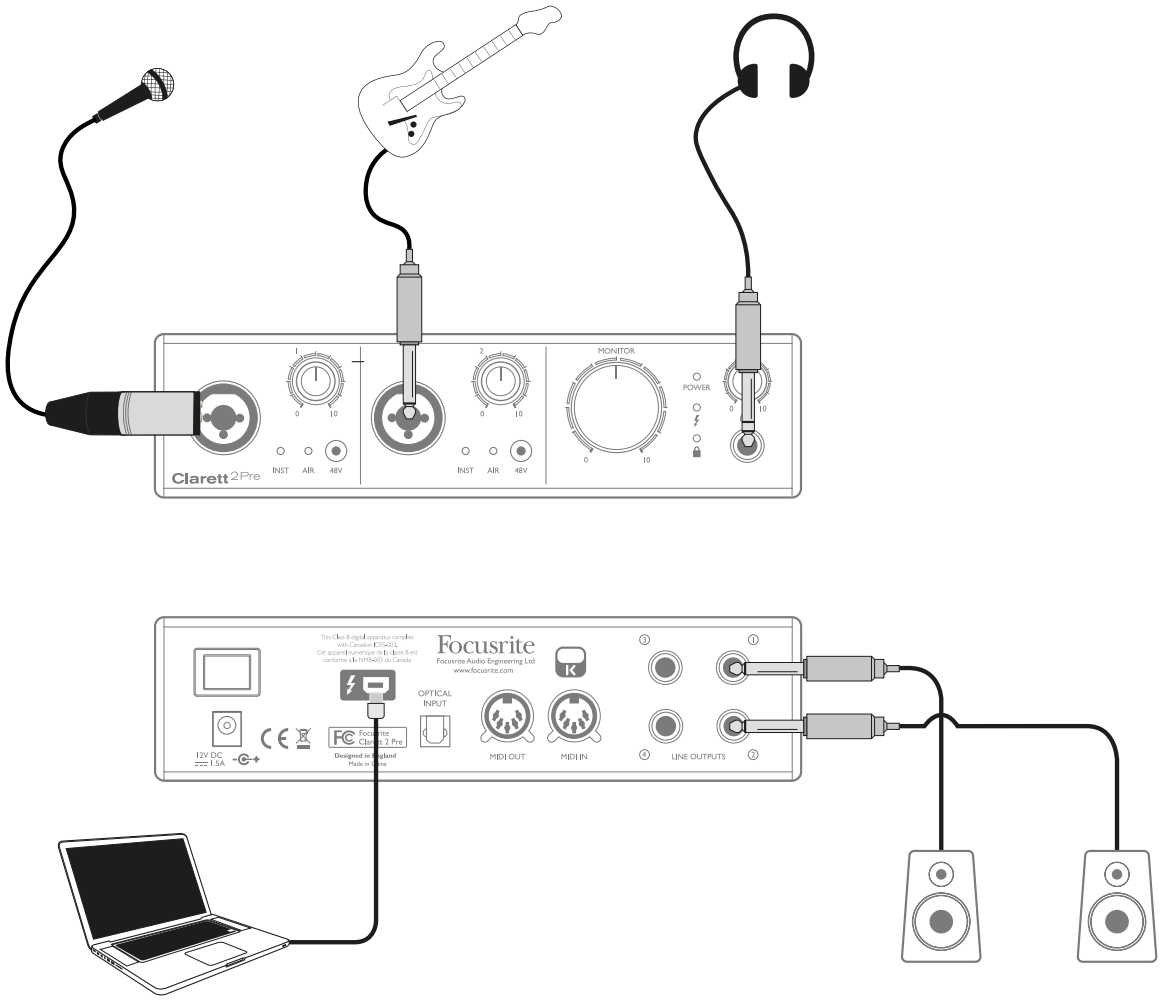
LINE OUTPUTS 3 and **4** do not have this circuitry.

If you're using additional speakers connected to these outputs, we recommend that you power your Clarett 2Pre 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 is an excellent choice for numerous recording and monitoring applications. Some typical configurations are shown below.

1. Recording a solo artist



This setup illustrates 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's inputs. As the guitar is connected to Input 2, ensure that INST mode is selected for Input 2 from Focusrite Control, and that the **INST** LED is illuminated.

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

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

It is possible that 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'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 that 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.

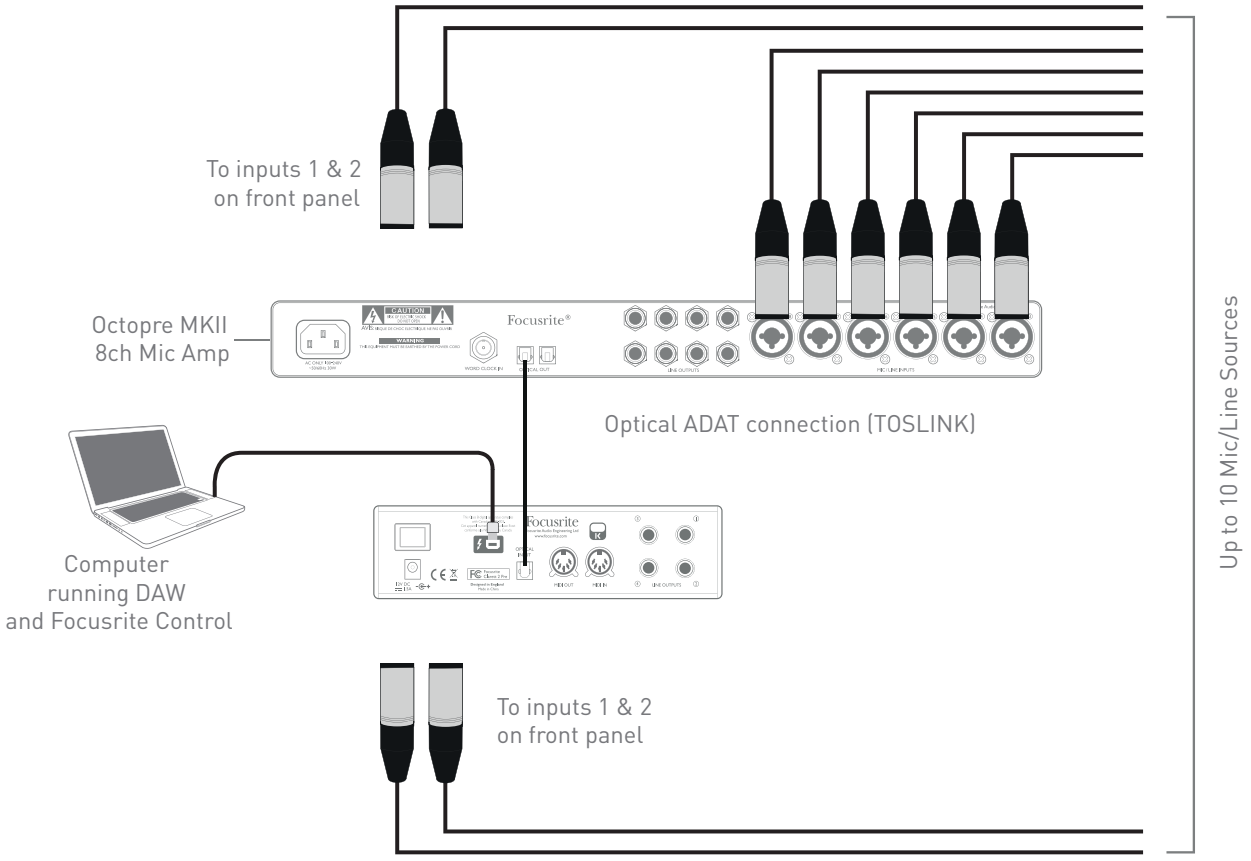
A note about latency

You will probably have heard the term "latency" used in connection with digital audio systems. In the case of the simple 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. Latency is rapidly becoming a problem of the past; the Thunderbolt™ interface used by your Clarett 2Pre is much faster than the USB or FireWire interfaces you may have used previously. As a result, you will nearly always be able to monitor your recordings through your DAW without noticing latency.

There is a possible exception to this: when you need to set the recording buffer size to a high value – this may be necessary when you are recording overdubs on a particularly large project, with many DAW channels, including software instruments and FX plug-ins. To overcome this, Focusrite Control gives you the option of sourcing your monitor feed directly from the Clarett 2Pre's inputs

2. Using the optical connections

In addition to the two analogue inputs, the Clarett 2Pre has an ADAT input port (**OPTICAL IN**) which can provide an additional eight audio inputs at 44.1/48 kHz sample rate, four at 88.2/96 kHz or two at 176.4/192 kHz. Using a separate 8-channel microphone preamplifier equipped with an ADAT output – such as the Focusrite OctoPre MkII – provides a simple and excellent method of expanding the Clarett 2Pre's input capability.



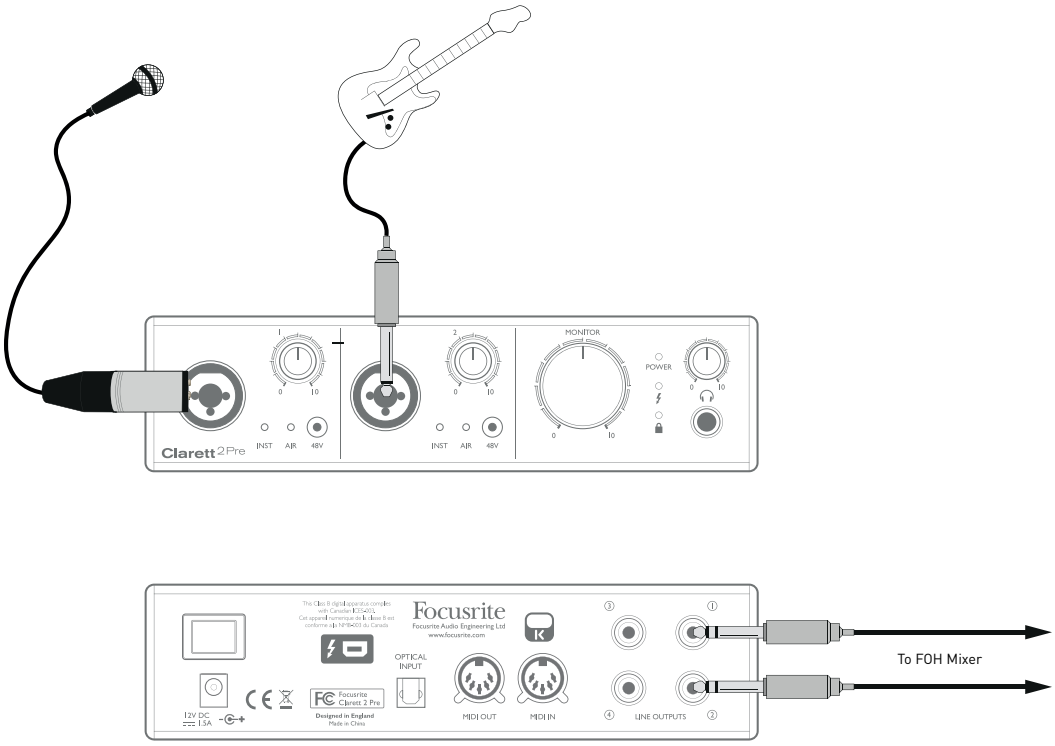
The OctoPre MkII's **OPTICAL OUT** port is connected to the Clarett 2Pre's **OPTICAL IN** port with a single TOSLINK optical cable. Stable ADAT synchronisation may be achieved by setting the Clarett 2Pre's clock source (in Focusrite Control) to be the ADAT format signal at the **OPTICAL IN** port.

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.

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

The Clarett 2Pre automatically stores any mix configuration defined in Focusrite Control within the hardware. This feature lets you configure it – for example, simply as an on-stage mic pre-amp for one or two mics, or for a mic and a guitar – using your computer, and then save the configuration to the device itself. Then you can use the Clarett 2Pre as a compact stage pre-amp, with the advantage of Focusrite's renowned analogue sonic quality.



In the example illustrated, a mic and a guitar are connected to the inputs of the Clarett 2Pre; 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. It allows you to create a custom monitor mix for each musician, and also to specify the routing of all audio signals to the physical audio outputs. All sample rate selection, digital syncing and buffer size settings (Windows only) are available from Focusrite Control.

Note: Focusrite Control is a generic product, and may be used with other hardware interfaces in the Focusrite Clarett range. When you connect a Clarett interface to your computer and launch Focusrite Control, the model of interface is automatically detected, and the software configured to suit the number of inputs and outputs, and other facilities, available on the hardware.

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

CLARETT 2PRE TECHNICAL SPECIFICATIONS

Performance Specifications

Configuration	
Inputs	10: analogue (2), ADAT (8)
Outputs	4: analogue
Mixer	Fully assignable 20-in/6-out mixer
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 - 20 kHz +/-0.1 dB
Dynamic Range	119 dB (A-weighted)
THD+N	0.001%
Noise EIN	–128 dBu (A-weighted)
Maximum input level	+18 dBu
Gain Range	57 dB
Line Inputs	
Frequency Response	20 Hz - 20 kHz +/-0.1 dB
Dynamic Range	118 dB (A-weighted)
THD+N	0.001%
Maximum input level	+26 dBu
Gain Range	+57 dB
Instrument Inputs	
Frequency Response	20 Hz - 20 kHz +/-0.1 dB
Dynamic Range	116 dB (A-weighted)
THD+N	0.001%
Maximum input level	+14 dBu
Gain Range	+57 dB
Line and Monitor Outputs	
Dynamic Range (Line Outputs)	119 dB
Dynamic Range (Monitor Outputs)	118 dB
THD+N	0.0007%
Maximum Output Level (0 dBFS)	+16 dBu, balanced
Headphone Outputs	
Dynamic Range	116 dB
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 connector: 8 channels at 44.1/48 kHz 4 channels at 88.2/96 kHz 2 channels at 176.2/192 kHz
Data connector (to Mac)	1 x Thunderbolt 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 Answerbase at www.focusrite.com/answerbase where you will find articles covering numerous troubleshooting examples.

COPYRIGHT AND LEGAL NOTICES

Focusrite is a registered trade mark and Clarett 2Pre is a trade mark of Focusrite Audio Engineering Limited.

All other trade marks and trade names are the property of their respective owners.
2015 © Focusrite Audio Engineering Limited. All rights reserved.