Focusrite

ISA C8X

ISA C8X user guide

Version 1.0

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ISA C8X overview

Welcome to the user guide for your ISA C8X.

Introduction to the ISA C8X

ISA C8X combines trademark ISA detail and clarity with comprehensive remote control and all the studio-quality analogue and digital I/O, routing, and recallability you need to run your entire setup. Two Lundahl transformer-based ISA preamps are paired with a new all-analogue Console mode for variable saturation and low-end punch, 430 Air mode provides high-end lift, switchable impedance, balanced inserts, and high-pass filtering — all controllable from the front panel and via the Focusrite Control 2 software.

- **2U rack-mounted, 26×28 USB audio interface**
  Capture, route, and mix sessions of any size with 26 inputs and 28 outputs of pristine analogue and digital audio.
- **Two remote-controllable ISA preamps**
  Featuring Lundahl LL1538 input transformers that add subtle warmth and body to any signal, plus balanced inserts, stepped and fine gain control, switchable impedance, high-pass filter, and up to 79dB of gain.
- **Analogue tone at the touch of a button**
  The two ISA preamps include relay-switchable circuitry, enabling variable saturation via Console mode and high-end lift with 430 Air mode.
- **Six remote-controllable ultra-low-noise mic preamp.**
  Alongside the two ISA preamps are six remote-controllable, ultra-low-noise Focusrite mic preamps designed to reliably capture every nuance with 69dB of clear, detailed gain plus analogue Air mode and variable Drive DSP.
- **Two front-panel instrument inputs**
  Both are routed through the Lundahl transformers for console-like feel and feature selectable impedance to enhance the natural tone of guitar, bass, and other instruments. Console and 430 Air modes are also available here for added analogue character.
- **Eight dedicated fixed-gain balanced line inputs**
  Designed for patch-bay setups and permanent installations, ISA C8X provides fixed line inputs that let you connect your outboard gear and avoid re-patching.
- **Automatically set your levels**
  Automatically set your levels Enable Auto Gain and let ISA C8X set gain automatically across all eight preamps in seconds, directly from the front panel or via Focusrite Control 2 desktop and mobile apps.

- **Flagship AD/DA conversion**
  Record and mix with the same 24-bit/192kHz AD/DA converters used in Focusrite's RedNet range, offering 125dB of dynamic range with 0.00022% THD.
- **12 balanced line outputs**
  Work in mono, stereo, or up to 7.1.4, with three monitor groups and front-panel or remote switching. A professional +24dBu maximum output level matches the line inputs for consistent line-up levels, with 125dB of A-weighted dynamic range; outputs 1 and 2 are available on both XLR and TRS.
- **Two dedicated headphone outputs**
  Each with independent level control, extra headroom, and optimised impedance for powerful, detailed playback.
- **ADAT, S/PDIF, MIDI, and Word Clock**
  Expand your setup with 16 additional channels over ADAT for up to 24 channels of recording with compatible ADAT-enabled gear, plus S/PDIF, MIDI, and Word Clock connectivity.
- **Focusrite Control 2 software and mobile app**
  When front-panel control isn't practical, Focusrite Control 2 makes it easy to remotely manage, save, and recall your mixes and routing, as well as monitor with low-latency across multiple connected interfaces.

What's in the box?

- Focusrite ISA C8X
- USB-C to C cable
- USB-A (male) to C (female) adaptor
- AC mains cable with IEC connector
- Four push-in silicone feet

System Requirements

The easiest way to check your computer's operating system (OS) is compatible with your device is to use our Help Centre's compatibility articles:

Focusrite Help Centre: Compatibility

As new OS versions become available, you can check for further compatibility information by searching our Help Centre at support.focusrite.com.

Getting started with your ISA C8X

Powering on your ISA

To power on your C8X using mains power:

1. Connect the power supply to your C8X's power socket.
2. Connect the USB cable from your C8X to your computer.
3. Switch the power switch to the on position.

Your ISA is now powered on and ready to use.

Caution
Always turn on your speakers last.

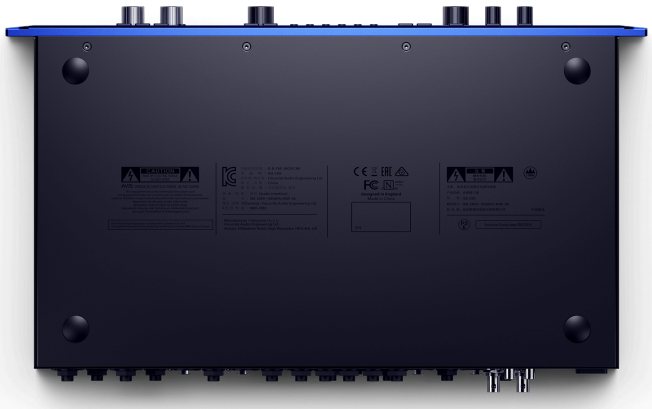
Your ISA 's speaker outputs have anti-thump technology, which reduces the likelihood of hearing pops from your speakers when you turn on your interface. Always turn on your speakers after you have turned on everything else in your recording setup.

If you don't turn on your speakers last, loud pops may damage your speakers, or worse, your hearing.

Attaching the feet

The ISA C8X comes with four optional push-in silicone feet. Before using your ISA C8X as a desktop interface we recommend you fit the feet to avoid scratching your desk, or the ISA C8X's chassis.

Each silicone foot fits into the corresponding holes in each corner on the ISA C8X's chassis.

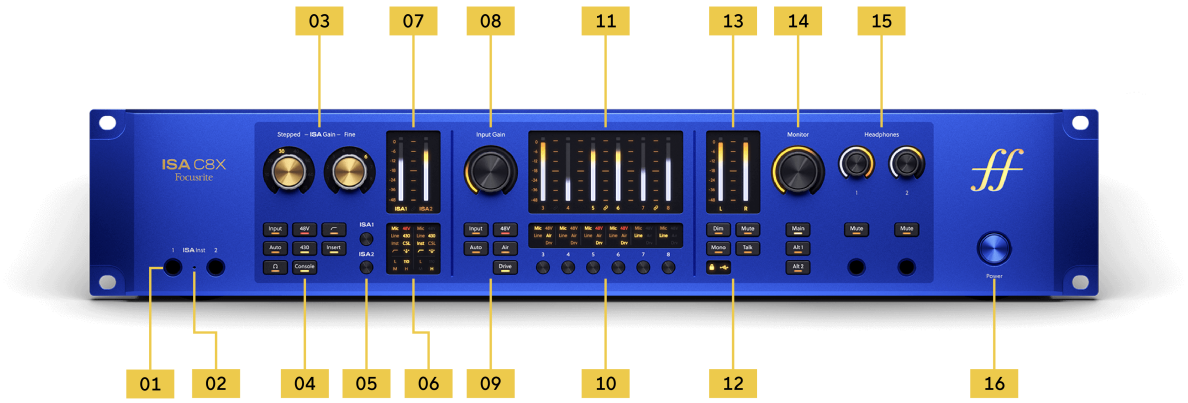


If you're rack-mounting your ISA C8X you may not want to add the feet.

ISA C8X hardware features

ISA C8X front panel

For more information on the ISA C8X's front panel features, see Your ISA C8X's front panel in depth [10].

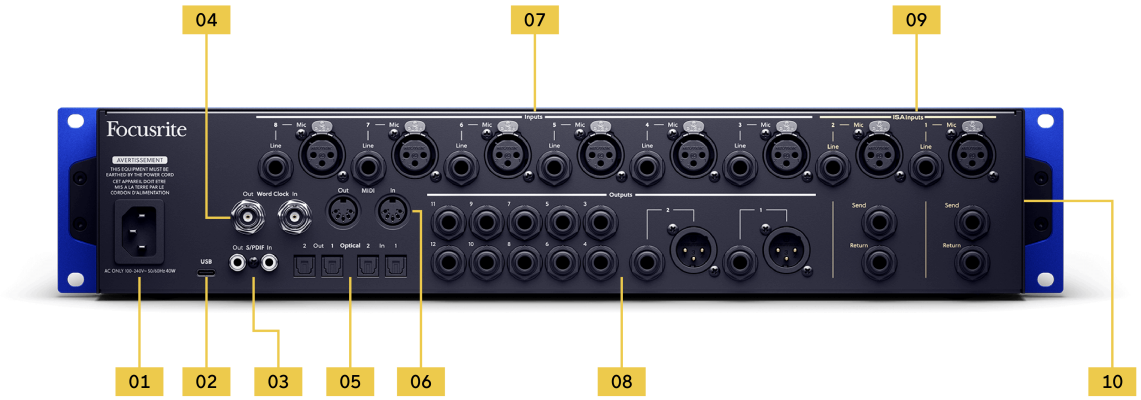


1. **ISA Inst** - Two 6.35mm jack instrument inputs for connecting instrument level sources to the ISA preamp channels.
2. Talkback mic - the talkback microphone location.
3. **ISA Gain** controls [12] - two dials to control the **Stepped** (left) and **Fine** (right) gain level for the selected ISA channel preamps, input 1 or 2.
4. ISA channel control buttons [10] - eight buttons to control the ISA preamps 1 and 2 from left to right, top to bottom:
    - **Input** button - Each ISA channel has three input types: Mic, Line and Inst. Press the **Input** button to cycle through them.
    - **48V** button - Press to turn on 48V phantom power at the XLR mic input to power condenser microphones.
    - High-pass filter ⌐ button - one switch per channel to remove unwanted low-frequencies. 75Hz knee frequency, 18dB/octave.
    - **Auto** button - Press to start the Auto Gain feature (see Auto Gain [16]).
    - **430** button – engages the 430 Air mode, adding a transformer effect to add clarity and openness to the high frequencies (see 430 [19]).
    - **Insert** button - switches the **Insert** return signal into the channel path.
    - Impedance **Ω** button - set the impedance for the input. The Mic inputs have four impedance settings, the Inst inputs have two. See Impedance [20].
    - **Console** button - engages the all-analogue Console mode, adding variable soft-clip saturation for warmth, punch, and classic analogue character (see Console [20]).
5. **ISA 1** and **ISA 2** select buttons [10] - two buttons to select each ISA channel, and what the ISA gain and channel control buttons affect.
6. ISA channel indicators - 12 LEDs per ISA channel to see what's enabled for each channel (e.g. control settings or input type).
7. **ISA 1** and **ISA 2** meters [14]and selection indicators - metering and selection LEDs for both ISA channels, to show the currently selected channel or link status.
8. Channels 3 - 8 **Input Gain** [13] - adjusts the preamp gain for the currently selected channel(s) 3 - 8.

9. Channels 3 - 8 control buttons [10] - five buttons to control preamps 3–8's functions, left to right, top to bottom:
    - **Input** button - Each channel has two input types: Mic or Line. Press the **Input** button to cycle through them.
    - **48V** button - Press to turn on 48V phantom power at the XLR mic input to power condenser microphones.
    - **Auto** button - Press to start the Auto Gain feature (see Auto Gain [16]).
    - **Air** button - Press to turn on AIR mode (see Air mode [21]).
    - **Drive** button - engages DSP-based harmonic distortion to emulate analogue warmth (see Drive [21]).
10. Channel select buttons **3** - **8** [10]- to select the channel, the **Input Gain** and control buttons affect.
11. Channels **3** - **8** meters and selection indicators [14] - metering for the six channels and selection LED to show the currently selected channel(s).
12. Main output section [22] and status indicators:
    - **Dim** button - reduces the output level being sent to your outputs by 18dB.
    - **Mute** button - silences the signal being sent to your outputs.
    - **Mono** button - press to sum the monitor group to mono.
    - **Talk** - hold **Talk** to activate talkback. When active, **Talk** lights, and the talkback mic routes to various outputs, e.g. headphones to speak to your musicians.
      When you enable **Talk**, **Dim** also activates. This reduces your monitor level to ensure clear communication.
    - Sync Status - Lights green when your ISA C8X is synchronised with itself or an external digital device. It lights white when it can't lock.
    - USB LED - Lights amber when your computer recognises your ISA, and dims if it is disconnected from your computer (in standalone mode).
13. **L** and **R** - two output meters for the left and right outputs.
14. **Monitor** section [23] - Monitor output level control and speaker selection buttons for **Main**, **Alt 1**, and **Alt 2**.
15. **Headphones [30]** section - two headphone output level controls, two **Mute** buttons and two 6.35mm headphone jack sockets.
16. **Power** - switch for turning on and off the ISA C8X.

ISA C8X back panel

For more information on the ISA C8X's back panel features, see Your ISA C8X's back panel in depth [31].



1. Power input - A standard IEC power input.
2. **USB** - USB-C connector to connect your ISA C8X to your computer.
3. **S/PDIF Out** and **In** - two coaxial RCA sockets for two-channel S/PDIF digital audio signals in and out.
4. **Word Clock** - two BNC connectors (**Out** and **In**) carrying a word clock signal to synchronise other digital audio equipment.
5. **Optical Out 1**/**2** and **In 1**/**2** - four TOSLINK connectors for up to 16 channels of digital audio in and out, in ADAT format at either 44.1/48 kHz or 88.2/96 kHz sample rates. You can configure an In and Out to receive and send a two-channel optical S/PDIF signal.
6. **MIDI Out** and **In** - standard 5-pin DIN sockets for external MIDI equipment. The ISA C8X acts as a MIDI interface, allowing MIDI data to/from your computer.
7. **Inputs 8** to **3** - six female XLR **Mic** inputs and six separate 6.35mm jack **Line** inputs, in reverse order, for channels 3 to 8.
8. **Outputs** - Two male XLR and 6.35mm sockets for Outputs **2** and **1**, 10 6.35mm jack outputs for outputs **3** to **12**.
9. **ISA** channel inputs **2** and **1** - two female XLR **Mic** inputs, two 6.35mm jack **Line** inputs and two pairs of 6.35mm **Send** and **Return** for each ISA channel.
10. *ff* ff vents - cooling vents stylised in the shape of our historic “foundations first” logo, make sure you don't obstruct these vents.

Your ISA C8X's front panel in depth

This section covers all the features on your ISA C8X 's front panel, what they do, how you might use them, and how they work in Focusrite Control 2.

Input section

This section covers the controls relating to the input controls on your ISA C8X.

The ISA C8X has two input sections, one for each preamp set. One control set is for the ISA preamps, inputs 1 and 2, the other is for preamps 3–8.

When you select a preamp, the controls get assigned to the preamp you've selected. you can have two preamps selected at any time, one ISA preamp and one preamps from 3–8.

This table shows the control buttons available for each input type:

ISA inputs 1–2	Preamps 3–8
Input	Input
Mic, Line, or Inst	Mic or Line
48V	48V
Auto Gain	Auto Gain
Channel select buttons	Channel select buttons
Stepped and Fine gain adjustment	Continuous input gain
430 Air	Air
Console	Drive
High-pass filter	
Insert	
Impedance Ω	

Selecting preamp channels

Selecting a preamp channel allows you to adjust the channel's gain and preamp settings.

- To select ISA channels, press either the **ISA 1** or **ISA 2** buttons.
  The ISA 1 or ISA 2 light beneath the meters lights to show which channel's selected.
- To select channels 3–8, press the buttons, labelled **3** - **8**, below channel meters.
  An LED beneath the selected channel's meter lights to show the selected channel.

Select an ISA preamp

Select preamps 3 - 8

If you link channels [22], both channel numbers light.

Selecting the channel input source

Each channel on the C8X has a separate connector for the different input types. This means you can leave all your equipment connected to the inputs, or connect the C8X to a patch bay for easily connecting sources quickly.

Each input has separate connectors for Mic/Line inputs; the ISA inputs have instrument connectors on the front panel.

To change input source, both the ISA channels and channels 3 - 8 have an **Input** button. Press the **Input** button to cycle through the input sources. The indicators beneath the meters show the currently selected input source for each channel.

Pressing the **Input** button cycles between:

- ISA preamps:
  - Microphone
  - Instrument
  - Line-level

- Ultra-low-noise Focusrite mic preamps:
    - Microphone
    - Line-level

When you change input source, the preamp settings remain the same.

What preamp controls affect the C8X's line inputs?
The settings available for line inputs are slightly different to the other inputs on your C8X. When you set the input to Line the following input controls **won't** be available:

- Gain (the line inputs are fixed-gain inputs)
- 48V
- High-pass filter
- Auto Gain
- 430 Air/Air
- Impedance Ω

Setting the ISA C8X's input gain

The preamp input gain controls how much signal you are sending into your computer and recording software.

It's essential to set a good level for the preamp input gain so you get the best quality recording. If the preamp input gain is too low, your signal will be too quiet and when you try to boost its level later you may hear noise in the recording; if the preamp input gain is too high you might 'clip' the input and hear harsh distortion in your recording.

Using the ISA preamps' input gain

Each ISA preamp has two gain controls. These work together to set the microphone or instrument gain. **Stepped** gain sets the main gain in 10dB increments; **Fine** gain lets you make 1dB adjustments.

Together, Stepped and Fine Gain provide a 79dB gain range.

Tip
You can use **Fine** gain on its own to set your gain. When **Fine** reaches maximum, **Stepped** gain increases.

For example, if **Stepped** is at 20dB and **Fine** is 9dB, turning **Fine** clockwise increases **Stepped** to 30dB and **Fine** resets to 0dB.

When you change ISA channels, both gain indicators show the stored gain for the newly selected channel.

Stepped Gain

Stepped Gain sets the gain level in eight steps across a 70dB range. After you select a channel, you can turn the Stepped Gain control to move through the eight positions (0dB, 10dB, 20dB, etc.). The LEDs around the encoder show the current gain value.

Once you've reached the set Stepped Gain to its maximum or minimum gain value, it won't increase or decrease the gain any further. You can fine tune the gain using the Fine Gain control.

Fine Gain

Fine Gain adds up to 9dB in ten smaller steps.

After you select a channel, you can turn the **Fine** control to move through its ten increments. The indicator around the control updates to show the setting.

When you reach the maximum Fine level, the Stepped gain increases. For example, if Stepped Gain is set to 40 and Fine Gain is set to 9, turning Fine Gain clockwise increases Stepped Gain to 50 and Fine Gain resets to 0.

Together, Stepped and Fine Gain provide a 79dB gain range.

Instrument input gain

When you set the input type to Instrument, both gain controls remain active and provide the same 79dB range as the microphone input. The gain value is consistent across Mic and Instrument modes.

Using preamps 3–8 Input Gain

To set the input gain for the standard channels (channels 3–8) use the select buttons to select the channel and move the **Input Gain** control.

The control's halo shows the current gain level. You can use the meter to set the correct level.

The gain changes in 1dB increments with a 69dB gain range.

Input Metering

Meters **1–8** show each C8X's input level.

As you increase the gain, or as the source gets louder the meters show more level coming into your computer.

To the meters' left, there's a scale from -48dBFS to 0dBFS. When you're recording aim for a signal level around -18dBFS, with the loudest parts of the signal reaching -12dBFS.

> **Tip**
> If your signal clips the clip indicator at the top of the meter lights red. If this happens, select that channel and reduce the gain.

Input button

Press **Input** to cycle through the available sources. The LED shows which one is active:

- **Mic/Line/Instrument** for channels 1–2
- **Mic/Line** for channels 3–8

You can only use one input type at a time per channel.

Changing the input source in Focusrite Control 2

You can change input source remotely from Focusrite Control 2 using the input source selector at the top of each channel strip.

The ISA inputs change between: Mic, Line, and Inst. Inputs 3–8 change between Mic and Line.

> **Note**
> When you set inputs to Line or Inst, Focusrite Control 2 disables some controls unavailable for that input type.

48V button (Phantom Power)

48V, also commonly referred to as 'Phantom Power', sends 48 Volts from your interface's XLR connector to devices needing power to work. The most common use is sending power to condenser microphones, but you may also need **48V** for inline mic preamps, active dynamic microphones, and active DI boxes.

To turn on 48V:

1. Connect your microphone, or another powered device, to an XLR input on your interface using an XLR cable. **48V** is not sent to the 6.35mm (1/4") jack inputs.
2. Select the correct input channel.
3. Press the **48V** button (or the corresponding software button)

The **48V** icon lights to show it is enabled.

48V phantom power is now being sent to the selected XLR input and to any devices connected to the XLR input.

48V (Phantom Power) software control

To enable 48V (Phantom Power) from Focusrite Control 2 click the +48V button on the input you want to enable it for. This is the same as pressing the 48V button on the C8X's front panel.

+48V Phantom Power off

+48V Phantom Power on

Important

If you accidentally send **48V** phantom power to the wrong input, you won't damage most modern microphones. However, you may damage some older microphones.

If you're unsure, check your microphone's user guide to ensure it is safe to use with **48V** phantom power.

High-pass filter button

Press the high-pass filter button to activate the 75Hz, 18dB/octave high-pass filter on the selected input.

Use it to reduce unwanted low frequencies, such as rumble from mic stands.

High-pass filter software control

To enable the high-pass filter from Focusrite Control 2 click the high-pass filter button for the input you want to enable it on. This is the same as pressing the high-pass filter button on the C8X's front panel.

High-pass filter off

High-pass filter on

Auto Gain

Auto Gain allows you to send a signal into your ISA C8X (for example singing or playing your instrument) for 10 seconds and let the ISA set a good level for your preamps. If you find the levels aren't right, you can adjust the gain controls manually to fine-tune the levels before recording.

To use Auto Gain:

1. Press the **Select** button to move your preamp controls to the correct preamp.
2. Press the **Auto** button on your ISA C8X, or the corresponding software button.
   The **Auto** icon lights for ten seconds. The corresponding input meter turns into a ten-second countdown timer.
3. Speak or sing into the microphone, or play your instrument during the Auto Gain countdown. Perform as you would while you're recording to make sure Auto Gain sets a good level.

If the Auto Gain was successful, the meter lights green before the C8X shows the gain value is shown. The gain is now set at a good level for your recording.

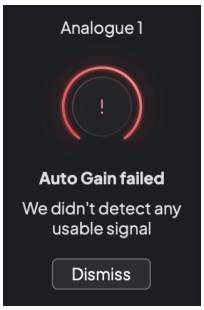
If Auto Gain fails, the meter lights red. Please see the section, The Gain Halo turned Red [16], for more information.

Note
ISA's Auto Gain makes sure your levels are set right not only using the input signal but also factors in:

- The preamp's noise floor.
- Digital silence.
- Inter-channel crosstalk.
- Unwanted knocks or bumps on your microphones.

Auto Gain failed and the meter turned red

If the signal is unsuitable for Auto Gain (for example, there's no signal detected), after ten seconds, Auto Gain stops and the meters light red. The gain returns to the value you set before starting Auto Gain.



Auto Gain unsuccessful

This can happen for all unusable signals, including no signal, very quiet signals, and too loud signals. If you see this error message, try the following:

- Make sure you've connected the source to the correct input.
- For condenser microphones, turn on 48V (phantom power).
- Ensure you're making sound while Auto Gain runs.

- Ensure the signal is not too loud.
    - If you are using the XLR inputs for a line level device (synths, keyboards, amp modellers), use the jack inputs instead.
    - Reduce the connected device's output.
- If the signal is too quiet, increase the gain 25–50% before starting Auto Gain.

Note
To cancel Auto Gain, press the Auto Gain button again at any time during the process. The gain returns to the value you set before starting Auto Gain.

Multichannel Auto Gain

Auto Gain allows you to send a signal into your ISA C8X (for example singing or playing your instrument) for 10 seconds and let the ISA set a good level for your preamps. If you find the levels aren't right, you can adjust the gain controls manually to fine-tune the levels before recording.

You can use Auto Gain on as many channels as you like on your ISA C8X.

To use multichannel Auto Gain

1. Hold the **Auto** button for one second.
   When you're in multichannel Auto Gain mode, all the **Select** LEDs pulse.
2. Press the **Select** buttons for the channels you want to run Auto Gain for.
3. When you're ready, press **Auto** again to start the Auto Gain process on the selected channels.

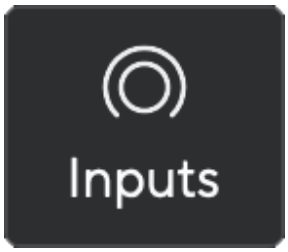
Note
To cancel Auto Gain, press the Auto Gain button again at any time during the process. The gain returns to the value you set before starting Auto Gain.

Multichannel Auto Gain in Focusrite Control 2

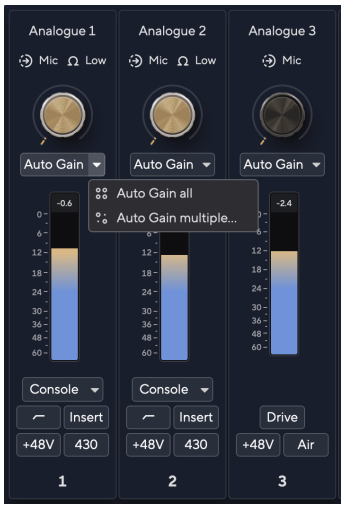
You can also run multichannel Auto Gain from Focusrite Control 2.

To do this:

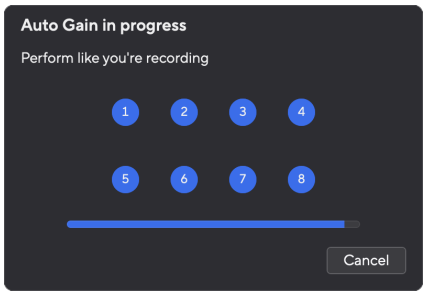
1. Open Focusrite Control 2 and go to the Inputs tab.



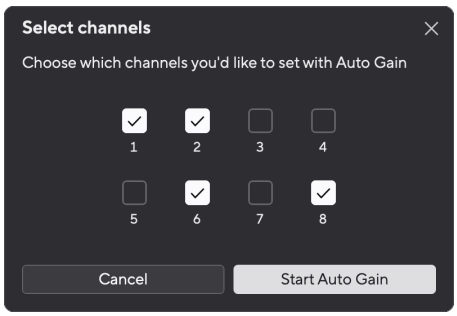
2. Click the dropdown arrow on the Auto Gain button.



3. Choose Auto Gain all or Auto Gain multiple….
    - Auto Gain all starts running Auto Gain for all your ISA C8X's channels.

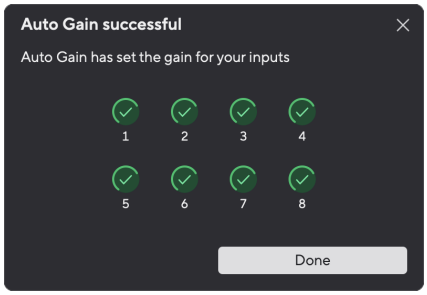


    - Auto Gain multiple allows you to choose the channels you want to run Auto Gain for.
4. If you clicked Auto Gain multiple, tick the channels you want Auto Gain.



5. Click Start Auto Gain.

Once Auto Gain has finished, Focusrite Control 2 shows the channels and their new gain levels:

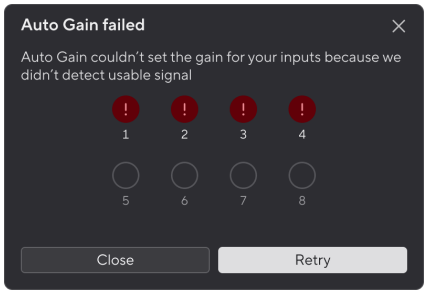


All Channels

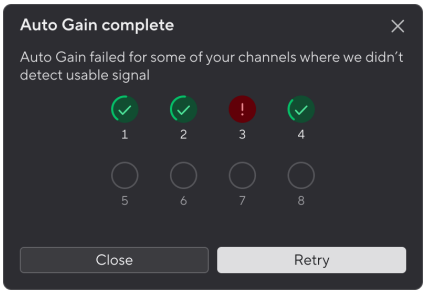
Multiple Channels

Multichannel Auto Gain failed

Multichannel Auto Gain might fail during the process for one, multiple, or all channels.



If Auto Gain fails for all channels, you'll see the Auto Gain failed message.



If Auto Gain fails for one or some channels, you'll see the Auto Gain complete message, but with the option to Retry Auto Gain on all channels.

You can either:

- Click Retry and all Auto Gain runs again for **all** the channels you ran Auto Gain for, even the successful channels.
- Click close and run Auto Gain for any failed channels.
- Click close and manually adjust the gain for any failed channels.

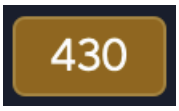
430 button

430 Air is a modern recreation of ISA 430 MkII's Mic Air mode. It enhances the signal's high-frequency content, adding a sense of spaciousness, often referred to as "air", to the sound. 430 Air uses an inductor-based circuit, which interacts with the preamp to deliver additional clarity, without the need for EQ.

430 software control

To enable 430 Air from Focusrite Control 2 click the 430 button on the preamp channel strip. This is the same as pressing the 430 button on the C8X's front panel.

430 Air off



430 Air on

Insert button

Press **Insert** to toggle the signal path through the **Send/Return** TRS connections for the selected ISA preamp. Use these to route the signal through outboard gear (e.g. compressors or EQs) before it reaches the ADCs.

Insert software control

To enable the channel's Insert point from Focusrite Control 2 click the Insert button at the bottom of the preamp channel strip. This is the same as pressing the **Insert** button on the C8X's front panel.

Insert point off

Insert point on

Impedance Ω setting

Press the impedance button labelled, **Ω,** to cycle through the four impedance values for the **Mic** input or two for the **ISA Inst** inputs. The ISA indicator LEDs show the selected setting. Different values affect the preamp's gain and frequency response, as well as how connected microphones behave.

Line input impedance is fixed at **20kΩ** and isn't affected by the impedance **Ω** button.

Table 1. Mic input impedance settings

Low	800Ω
ISA 110	1.4kΩ
Med	2.4kΩ
High	7kΩ

Table 2. ISA Inst input impedance settings

Low	400kΩ
High	1.2MΩ

Impedance software control

To change the preamp impedance from Focusrite Control 2 click the impedance Ω button at the top of the preamp channel strip.

Different input types have different impedance available. Focusrite Control 2 greys out impedances unavailable for the currently selected input type.

Console mode

When you enable the **Console** button, the ISA channels behave like they're part of an all-analogue signal flow. At lower levels the signal remains clean and transparent, but then you drive the channel harder (with higher-level input signals, or increasing the gain) you start to hear analogue saturation on the signal.

Console is a variable, all analogue effect and the result is warm saturation and low-end punch.

The Console effect uses a soft-clip circuit with variable control so you dial in the effect amount.

Variable Console mode

You can adjust Console mode and the effect applied to a channel. To enter Variable Console mode, hold the **Console** button for one second.

When Variable Console mode is active:

- The **Console** button and indicator LEDs begin pulsing blue.
- The ISA **Fine** value changes to blue.

The ISA **Fine** Gain now sets the Console effect amount.

If you change channel, the behaviour depends on the Console state for the new channel:

- If Console is on, Fine Gain stays in Variable Console mode and shows the Console amount for the new channel.
- If Console is off, Fine Gain goes back to controlling gain.

To exit Variable Console mode, press **Console**. If you enter Variable Console mode while Console is off, the channel activates Console automatically.

If channels are linked, adjusting the amount affects both channels together.

Note
The **ISA Gain** controls become temporarily unavailable in Variable Console mode.

Adjusting Console from Focusrite Control 2

In Focusrite Control 2 you can enable Console mode and adjust how much the Console has on the signal using a slider.

The **Console** button lights amber when it's on.

To adjust the Variable Console mode, click the drop-down arrow on the Console button and move the slider. Move it left for a more subtle effect and right to hear more saturation and low-end punch.

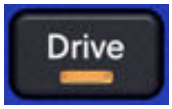
Air mode

To enable Air, press the **Air** button. When you enable Air, this engages an analogue high-shelf circuit to subtly change the preamp's frequency response to model classic transformer-based ISA mic preamps' impedance and resonance characteristics.

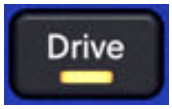
When you record with microphones this adds an enhanced clarity and definition in the mid-frequency range. Air is great to give an extra flavour on most sources, but works well on vocals and acoustic instruments.

Drive button

To enable Drive, press the **Drive** button on your ISA C8X's front panel. Enabling Drive adds variable, DSP-based, harmonic distortion to emulate analogue preamp warmth.



Drive off.



Drive on.

Variable Drive mode

You can adjust Drive mode and the effect applied to a signal. To enter Variable Drive mode, hold **Drive** for one second.

When Variable Drive mode is active:

- The **Drive** button LED begins pulsing blue.
- **Input Gain** changes to Variable Drive mode.

You can turn the **Input Gain** control to set the drive amount. The halo around the encoder updates to show the amount.

If you change channel, the behaviour depends on the Drive state for the new channel:

- If Drive is on, Input Gain stays in Variable Drive mode and shows the drive amount for the new channel.
- If Drive is off, Input Gain goes back to controlling gain.

To exit Variable Drive mode, press **Drive**. If you enter Variable Drive mode while Drive is off, the channel activates Drive automatically.

If channels are linked, adjusting the amount affects both channels together.

Adjusting Drive from Focusrite Control 2

In Focusrite Control 2 you can enable Drive mode and adjust how much effect Drive has on the signal using a slider.

The **Drive** button lights amber when it's on.

To adjust the Variable Drive mode, click the drop-down arrow on the Drive button and move the slider. Move it left for a more subtle effect and right to hear more distortion and warmth.

Linking preamps

Linking channels lets you control two adjacent channels together as a pair, simplifying operation when you need matched settings for stereo sources or paired inputs.

Which channels can you link?
You can only link fixed adjacent channel pairs. The supported pairs are:

- Channels 1 and 2
- Channels 3 and 4
- Channels 5 and 6
- Channels 7 and 8

To link a channel pair:

1. Hold the select button for one of the channels in the pair.
2. After a second, both channels and the link LEDs light, and you can release the button.

When channels are linked:

- The channel LED lights for both channels.
- All controls for each channel in the pair become linked and controlled together.
    - Preamp gain – The linked pair uses the lowest gain setting of the two channels to avoid unexpected level changes.
    - 48V phantom power – If 48V is active on either channel when linking, phantom power is switched off on both channels and set to its default state.
    - Control buttons – Both channels adopt the settings of the channel whose Select button was held when linking. For example, if you start linking by holding channel 3's Select, the channel 3 and 4 pair inherits channel 3's control states.
      All controls within a linked pair (gain, pad, phantom power indicators and so on) now reflect and affect both channels together.

Unlinking Preamps

To unlink a linked pair:

1. Hold the select button for one of the channels in the pair.
2. After a second, the right-hand channel and link LEDs dim, and you can release the button.

When the pair is unlinked:

- The channel LED for one of the channels turns off.
- Each channel keeps the active states, but you can control them independently.

Output section

This section covers the output controls on the ISA C8X.

The ISA C8X has 12 assignable analogue outputs — each with Dim, Mute, Sum, talkback, and speaker switching — and two independent headphone outputs with hardware and software controls for level and mute.

Monitor control section

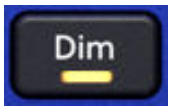
The Monitor control section relates to anything controlling your monitor outputs, including:

- Dim [24]
- Mute [24]
- Mono [24]
- Monitor control [27]
- Main, Alt 1, and Alt 2 Monitor group buttons. [27]

Dim Button

The **Dim** button reduces the output level being sent to your outputs by 18dB.

Dim off



Dim on

The **Dim** button is useful to help allow conversation or to try ideas in the room without stopping playback.

By default, Dim affects the Main monitor outputs 1 and 2, but in Focusrite Control 2 you can change this to control your Alt outputs.

Dim Software Control

To enable/disable Dim [24] in Focusrite Control 2 click the Dim button in the Outputs section on the right.

The Dim button works in the same way as the Dim button on your C8X 's front panel and reduces the output level being sent to your outputs by 18dB.

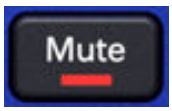
Dim off.

Dim on.

Mute button

The **Mute** button silences the signal being sent to your outputs.

Mute off.



Mute on.

By default, Mute affects the Main monitor outputs 1 and 2, but in Focusrite Control 2 you can change this to control your Alt outputs.

Mute Software Control

To enable/disable Mute [24] in Focusrite Control 2 click the Mute button in the Outputs section on the right.

The Mute button works in the same way as the Mute button on your ISA C8X 's front panel.

Mute off.

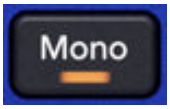
Mute on.

Mono button

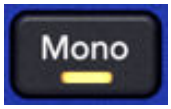
The **Mono** button lets you sum a stereo monitor group to mono. While Mono is active, the C8X sums the left and right signals.

When you switch to another two output monitor group, the current mono state carries over.

Mono is only available when the current monitor group uses exactly two outputs. If the monitor group uses more outputs, the Mono button won't do anything.



Mono button off



Mono button on

Mono software control

To enable/disable Mono in Focusrite Control 2 click the Mono button in the Outputs section on the right.

The Mono button works in the same way as the Mono button on your ISA C8X's front panel.

Mono off.

Mono on.

Talkback Button

Hold, or press, the **Talk** button to activate talkback. By default, talkback routes to the two headphone outputs.

If the Talkback button is unavailable, it may not be routed to any Mixes. See Talkback Software Control [26].

When you enable **Talk,** the other mix outputs dim, to make it easier to hear the talkback microphone.

You can change the talkback routing in Focusrite Control 2 to feed multiple mixes.

By default, the **Talk** button is 'momentary' – talkback is only active while you hold the button. You can change the **Talkback** button between momentary or latching from Focusrite Control 2. You can tell Talk is on if the button is lit.

> **Caution**
> The talkback microphone is behind a small hole between the instrument inputs.
>
> To avoid damage, do not insert anything into, spray compressed air, or vacuum the mic hole.

Talkback Software Control

The software talkback button can be either momentary or latching.

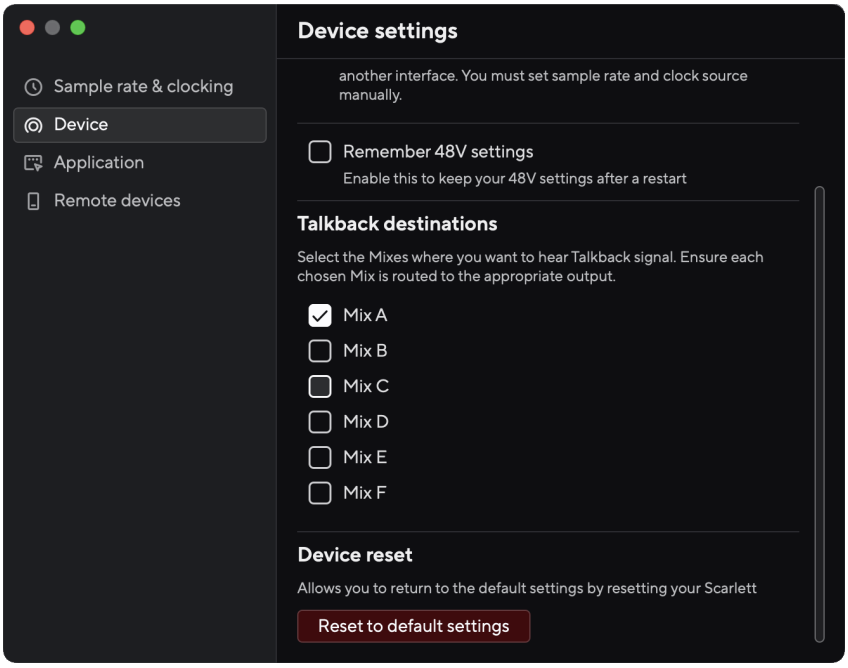
Click and hold the **Talk** button to activate momentary talkback. Click the **Talk** button for latching control.

Routing the Talkback input

Using Focusrite Control 2 you can pick which mix you're sending your talkback input to.

To change which mix your sending your talkback mic to:

1. Open the Focusrite Control 2 Preferences page from the ellipses ··· in the top right corner.
2. Go to the Device tab.
3. Click the tick box to enable the talkback mic for the mixes you want.



Talkback destinations

To use the Talk microphone, you need to tell your C8X where you want to send your talkback microphone. To do this:

1. Click the tick boxes next to the **Mixes** you want to send the talkback microphone to.

2. In the Routing tab, assign the Mixes as a **Source** to the outputs you want to send them to. For example, Send Mix A and Mix B to Headphones 1 and Headphones 2, so your artists can hear the talkback mic.
   For more information, see Using the Focusrite Control 2 Routing tab [53].

Monitor control and monitor groups

Your C8X has a **Monitor** to adjust the level going to your monitor speakers. The **Monitor** control affects the three monitor groups, **Main**, **Alt 1**, and **Alt 2**, you can set up and edit in Focusrite Control 2.

Each monitor group lets you assign specific outputs to a setting and switch between different monitor setups at the touch of a button.

There are three options:

- **Main**
- **Alt 1**
- **Alt 2**

For example, your **Main** group could be a 5.1 surround sound system, **Alt 1** could be only outputs 1-2 in stereo, and **Alt 2** could be only output 3 to a centre-mono speaker for checking your mixes.

Your monitor group choices are stored and recalled with presets.

Important
Initially, only **Main** is active. **Alt 1** and **Alt 2** remain unavailable until you configure them in Focusrite Control 2. If you only set up two monitor groups, the remaining button stays unavailable while the other two work normally.

Assigning Outputs in Focusrite Control 2

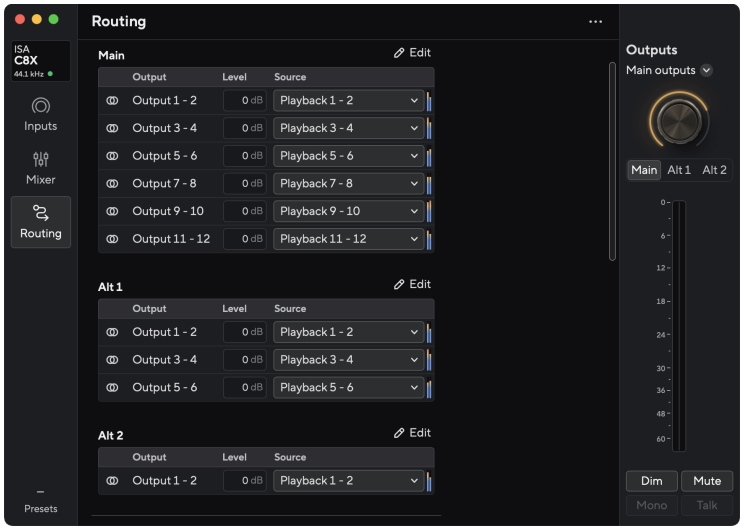
You assign outputs to monitor groups in the Focusrite Control 2 Routing page. You can add up to all 12 analogue outputs to each monitor group, either as stereo pairs or as mono outputs. Each output can have its own source.

Any output you assign to one or more monitor groups is reserved for monitor use only. This prevents accidental routing to your speakers.

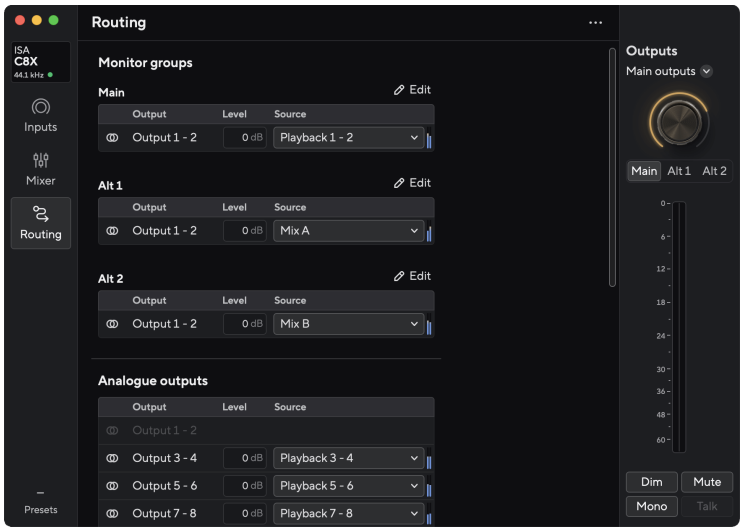
Any outputs you don't assign stay available in the Routing page as normal.

You can set the Level for each output individually to calibrate your system while in your listening position.

Note
You can't assign digital outputs, e.g. ADAT or S/PDIF to your monitor groups.



In this example there are three monitor groups: Main includes 12 physical Outputs, fed from 12 software Sources for a 7.1.4 immersive speaker setup, Alt 1 includes six outputs for a 5.1 surround sound speaker setup, Alt 2 is a stereo speaker setup. You can configure the Software Playback channels in your DAW's settings for the different listening formats.



In this example we're using the Main and Alt buttons to change the source for a single set of outputs: Main uses a stereo output from Software, Alt 1 uses Mix A, Alt 2 uses Mix B. Assigning mixes to the Alt buttons allows you to quickly change what's coming through your speakers. For example, a mix might include hardware inputs to allow us to direct monitor inputs alongside software playback.

Changing Monitor groups

To change monitor groups, press **Main**, **Alt 1**, or **Alt 2**.

The selected monitor group button lights to show which monitor group you're using.

All the Monitor controls (Dim, Mute, Mono) apply to any output included in the currently selected monitor group.

Headphone outputs

Your ISA C8X has two headphone outputs. Both headphone outputs are independent from the analogue outputs. Each headphone output can have its own dedicated mix.

The headphone outputs are 6.35mm (¼”) TRS jacks. Many headphone have a 3.5mm TRS jack, to connect them to your ISA C8X you must use a TRS 6.35mm to 3.5mm adaptor.

The controls above the headphone outputs control the level going to your headphones.

Around the headphone controls are halo meters. These fill up clockwise, from blue to amber, to show the level going to your headphone outputs. The meters are pre-fade, meaning they are not affected by the headphone control setting.

The headphone output controls are encoders; you can control the level from the dial, or remotely from Focusrite Control 2.

Below the headphone controls are two **Mute** buttons to quickly mute the headphone outputs from the front panel.

Note

Some headphone and jack adaptors may have TS or TRRS connectors, often due to built-in microphones or volume controls. These might not work properly. If you encounter issues, use headphones and a jack adaptor with TRS connectors.

Your ISA C8X's back panel in depth

This section covers all the features on your ISA C8X's back panel, what they do, how you might use them and how they work in Focusrite Control 2.

USB Connection

The USB Type-C port labelled **USB** is to connect your ISA C8X to your computer.

Use the included USB-C cable to connect to a USB-C port on your computer. You can also use a USB-C to A cable or adaptor.

S/PDIF IO

The S/PDIF ports give you two digital I/O channels to connect to other audio equipment with S/PDIF I/O such as guitar amps, mic preamps, or any device with an S/PDIF output.

Note
The S/PDIF ports are coaxial RCA, and we recommend you use 75Ω cables. However, shorter, normal RCA cables should work.

The Sync Status Indicator on your ISA C8X should light to show it's locked, or synchronised to clock. When you send audio from the external device to your ISA C8X you should see the S/PDIF channels coming in on channels 11-12.

Note
Your ISA C8X disables the digital inputs and outputs at quad-band sample rates (176.4/192 kHz.)

Word clock IO

The C8X has both a word clock input and output.

The word clock input and output are there to receive or send clock signals from external digital devices connected via ADAT or S/PDIF. The main reason for using this output is if your external ADAT or S/PDIF devices don't have the relevant clocking options, but may have word clock IO.

Optical connections

The Optical connections on your C8X's back panel allow you to connect external devices digitally to expand the channel count.

Using Focusrite Control 2 you can set the Optical inputs to either ADAT format (ADAT devices like mic pres, line level I/O, and tape machines) or optical S/PDIF (games consoles, media players).

The C8X has two optical ports. In ADAT mode, you can use one or two cables for the following formats:

- One cable:
    - Eight channels at single-band sample rates - 44.1/48kHz
    - Four channels at dual-band sample rates - 88.2/96kHz
- Two cables:
    - Sixteen channels at single-band sample rates - 44.1/48kHz
    - Eight channels at dual-band sample rates - 88.2/96kHz

In S/PDIF mode, you can use Optical In 1 for two optical S/PDIF channels.

Note
Your ISA C8X disables the digital inputs and outputs at quad-band sample rates (176.4/192 kHz.)

MIDI

The **MIDI In** and **Out** ports allow you to use your ISA C8X as a USB MIDI interface. MIDI In receives MIDI signals from keyboards or controllers; MIDI Out sends MIDI information to synths, drum machines, or MIDI-controllable equipment.

Important
When you first receive your ISA C8X, MIDI is disabled because it is in Easy Start mode. To enable MIDI, install and open Focusrite Control 2.

The MIDI IO doesn't require any setup for you to use your ISA C8X as a USB MIDI interface. The ISA C8X's MIDI ports appear in your MIDI-enabled software, and you can either send or receive MIDI data between your computer and MIDI hardware via the C8X's 5-pin DIN MIDI ports.

Note
The MIDI Out port on your ISA C8X **cannot** function as a MIDI Thru port.

Inputs

The ISA C8X has two different input types based on the preamp types: the transformer-based ISA channels and channels 3–8. Each preamp type has different input types.

ISA C8X's separate XLR (microphone) and 6.35mm jack (line level) inputs.

- ISA channels:
  - Instrument inputs – on the front panel.
  - Microphone inputs – XLR inputs on the back panel.
  - Line inputs – 6.35mm (¼") jack inputs on the back panel.
  - Inserts – 6.35mm (¼") jack Send and Return on the back panel.
- Channels 3–8:
  - Microphone inputs – XLR inputs on the back panel.
  - Line inputs – 6.35mm (¼") jack inputs on the back panel.

Inputs 3–8

The ultra-low-noise inputs, inputs 3–8, are switchable between microphone and line level.

- The microphone-level inputs use the XLR connector.
- The line-level inputs use the 6.35mm (¼") jack.
  The line-level inputs are TRS balanced inputs.

You can leave the XLR and 6.35mm inputs connect and switch between them using the Input button [11] on the front panel.

ISA inputs

The ISA inputs, inputs one and two, are switchable between microphone, line, and instrument level.

Both ISA inputs have switchable insert path where you can connect outboard equipment using the line-level Send and Return 6.35mm jacks.

- The instrument-level inputs use the two 6.35mm (¼") jacks on the front panel.
  The instument-level inputs are TS unbalanced inputs.
- The microphone-level inputs use the XLR connector.
- The line-level inputs use the 6.35mm (¼") jack.
  The line-level inputs are TRS balanced inputs.

You can leave the XLR and 6.35mm inputs connect and switch between them using the Input button [11] on the front panel.

ISA channel Send and Returns (Inserts)

The ISA channels have dedicated insert points with, balanced, **Send** and **Return** sockets for including inline external processors and outboard equipment (for example EQs, compressors, gates, multi-effects, or amp simulators) before the signal reaches the converters.

To use external processors with your ISA channels:

1. Connect the C8X's **Send** output to your external processors input.
2. Connect your processors output to the **Return** input on the C8X.
3. Press the **Insert** button to hear the effect.

The **Send** is taken after the Impedance setting, HPF, and 430 Air, but before Console. Send is always active.

To hear the Return signal, press the **Insert** button on the C8X's front panel, or in Focusrite Control 2.

Outboard tips

- Set the external processor's input and output so the Return level closely matches the Send, and check the channel meters to avoid overload.
- While you can use time-based effects like delay and reverb, generally effects like this aren't used as inline processors and added in parallel to the original signal.

Line outputs

The ISA C8X has twelve balanced analogue line outputs on 6.35mm (¼") TRS jack sockets on the rear panel; outputs one and two also have balanced XLR connectors.

These outputs let you send audio to speakers, amplifiers, or outboard equipment.

The 12 outputs let you connect to stereo, surround, and immersive speaker groups up to 7.1.4. Using the routing and Monitor groups in Focusrite Control 2 you can set up three different monitor groups and change them using the monitor group buttons. See Monitor control and monitor groups [27] for more information.

Line outputs 1 and 2

The Outputs labelled 1 and 2 can either be balanced 6.35mm (¼") jack or balanced XLR outputs.

Other than this, they are identical to Outputs 3–12.

Note

Generally, you should only use the XLR outputs or jack outputs, not both.

However, you can connect both the XLR and jack connections to monitors. Running them simultaneously halves the power going to each output, meaning you'll hear a level drop of between -3 and -6dB.

Line outputs 3–12

Outputs 3 - 12 are 6.35mm (¼") TRS jack connectors.

You can use these outputs to send signal from your DAW to mixers or outboard equipment, or use them as extra monitor outputs.

To use the outputs with monitors, you can assign them to the Monitor control for surround sound and immersive sound applications, or use them in Alt Monitor groups. For more information see Assigning Outputs in Focusrite Control 2 [27].

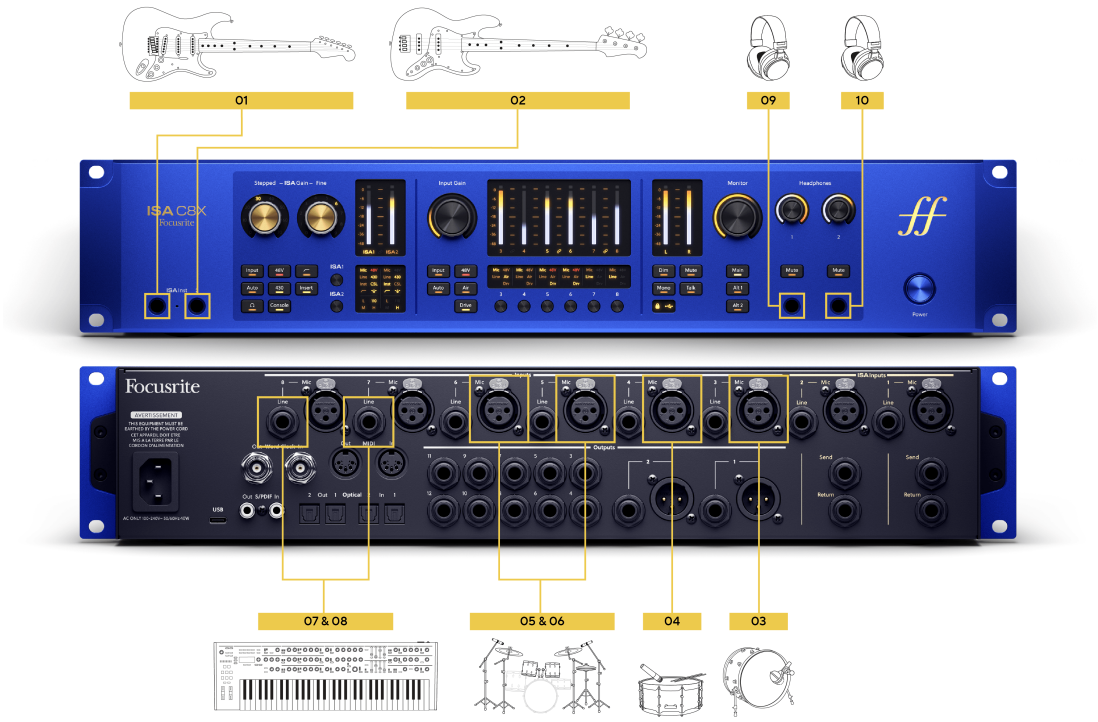
Using your ISA C8X

This section covers some common use cases for the ISA C8X. Often your use case is a variant of these and how you use your ISA C8X probably reuses some principles.

Using ISA C8X's inputs

The C8X has eight analogue inputs to connect microphones, instruments, or line-level devices.

The following diagram shows how you can connect various sources to the analogue inputs.



1. Guitar – connected directly to a front-panel 6.35mm (1/4") jack instrument input.
2. Bass – connected directly to a front-panel 6.35mm (1/4") jack instrument input.
3. Kick/bass drum microphone – connected to Mic input 3.
4. Snare drum microphone – connected to Mic input 4.
5. Overhead left microphone – connected to Mic input 5.
   When you're connecting an overhead pair like this, depending on your mic technique, it's often a good idea to link the preamps so both channels' settings match, see Linking preamps [22].
6. Overhead right microphone – connected to Mic input 6.
7. Keyboard/synthesiser left – connected to Mic input 7.
   When you're connecting a stereo source, like a keyboard, it's often a good idea to link the preamps, so both channels' settings match, see Linking preamps [22].
8. Keyboard/synthesiser right – connected to Mic input 8.
9. Headphones output 1
10. Headphones output 2

Tip

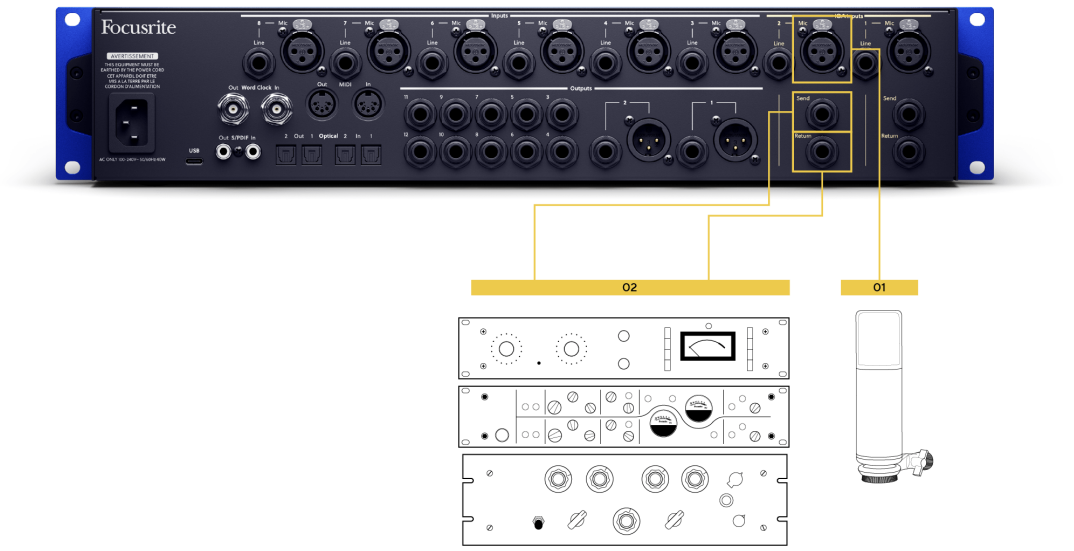
In this example we've connected instruments to channels one and two because only the ISA preamps have instrument inputs.

However, you might want to reserve the transformer-based ISA preamps for other instruments like vocal microphones or drum overheads and use the 430 Air and Console modes, and switchable impedance to elevate key elements in your mix.

In this case you could try multitracking your guitar or bass tracks, use a DI box, or record via an amp if you'd like to record microphones with your ISA inputs.

Recording vocals with the ISA C8X

The C8X is a great tool for recording vocals; its two preamp styles, the ISA preamps and channels 3–8, give you two flavours to begin with. In addition, each preamp has a number of creative controls you can test while tracking to nail everything from pristine, airy clean vocals, to raspy, warm, overdriven tones.



1. **Vocal 1 – ISA preamp**
   Using the ISA preamps gives you a huge 79dB gain range. Ideal for recording everything from lead vocals, to delicate quiet voices, to using dynamic microphones, notorious for needing high gain ranges. You can also include the preamp settings in your vocal recording:
   - High-pass filter – the high-pass filter removes any rumble and handling noise to avoid using plugins later in your mix. If you're recording vocals with other instruments, this filters out bass frequencies from the vocal mic. Likewise, a common technique, to make your vocalist feel comfortable, is to let them hold the microphone.
   - 430 Air – engaging 430 Air gives your vocal a lift in the upper-mid and high-frequencies, great for letting your vocal cut through or giving it an “airy” quality.
   - Insert – lets you switch in and out inline processing from your vocal chain. See below.
   - Impedance – with four impedances to try, you can quickly toggle settings to tailor your vocal sound. Generally, low impedance settings give you a warmer sounding, vintage style vocal recording, and can reduce harshness. High impedance settings preserve more high-frequency content letting the vocal recordings cut through.
   - Console – Variable Console allows you to dial in subtle analogue warmth to your vocals.
2. Insert chain – the insert Send and Returns mean you can add inline effects, like compressors, EQs, and toggle the effects on/off using the insert button to see what you prefer when tracking.

Recording high channel counts with the ISA C8X

The C8X has two optical input and output connectors which, at 44.1kHz and 48kHz, gives you up to 16 extra inputs and outputs via ADAT.

In these examples, we've shown how you can expand the C8X with ADAT expansion devices, or another audio interface with ADAT IO, to record 24 channels simultaneously using the dual-ADAT connections.

This first example expands the C8X with 16, transformer-based ISA preamps using two ISA 828 MkIIs with optional ISA ADN8 digital cards. This gives you 24 preamps, 18, transformer-based ISA preamps and another six preamps on the ISA C8X.

1. ADAT connection 1:
    - Connect ADAT device A's Optical Out 1 to the C8X's Optical In 1.
2. ADAT connection 2:
    - Connect ADAT device B's Optical Out 1 to the C8X's Optical In 2.
3. ISA headphone sends – the normal C8X headphone sends

This second example, uses interfaces (perhaps an old interface you've upgraded from) instead of ADAT expansion devices which gives you extra headphone outputs. In this case, we've shown two Scarlett 18i20 4th Gen interfaces, but you can use any interface with ADAT I/O, however the I/O count may vary. If your ADAT device had ADAT inputs and headphone outputs you can also use this to expand the independent headphone mixes available for your session.

1. ADAT connection 1:
    - Connect ADAT device A's Optical Out 1 to the C8X's Optical In 1.
    - Connect the C8X's Optical Out 1 to Device B's Optical In 1.
2. ADAT connection 2:
    - Connect ADAT device B's Optical Out 1 to the C8X's Optical In 1.
    - Connect the C8X's Optical Out 2 to Device B's Optical In 1.
3. ISA headphone sends – the normal C8X headphone sends
   By using two-way optical connections this means we can create extra headphone mixes in Focusrite Control 2 and send these mixes from the C8X to the ADAT device and route the incoming mixes to the ADAT device's headphone outputs. In this case, giving us up to six independent headphone mixes.
4. ADAT headphone sends 1 and 2 – a mix sent from the C8X via its ADAT output to the ADAT device's headphone output.
5. ADAT headphone sends 3 and 4 – a mix sent from the C8X via its ADAT output to the ADAT device's headphone output.

Clocking

When you're connecting devices over any digital connection you must make sure all the devices are digitally synchronised. If you don't synchronise devices you may hear no sound, or glitches and distortion.

In the first example, the easiest way would be to use Word Clock cables. Both the C8X and both ISA ADN cards have Word Clock In and Out to synchronise their internal clocks.

In the second example, the easiest way to sync the three devices would be to set the ISA C8X to Internal in Focusrite Control 2 and set the two Scarlett 18i20s to ADAT clock.

For more information, see Clock Source [60].

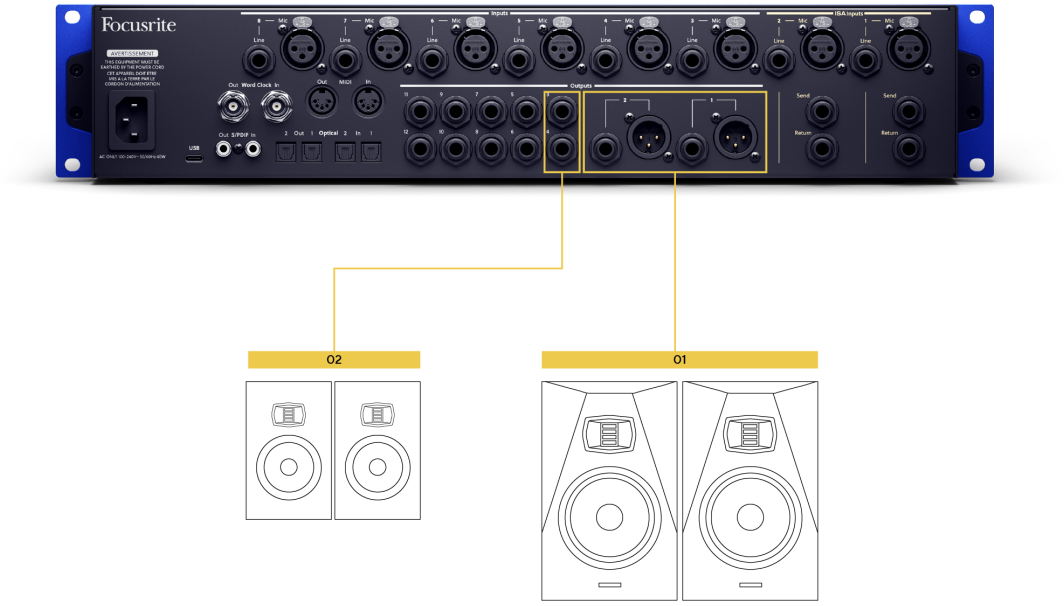
Using the ISA C8X's outputs

The ISA C8X has 12 outputs and three user-customisable monitor groups. This flexibilty allows you to monitor in a range of formats from stereo to 7.1.4 immersive.

In these sections, we've covered using the outputs in three common monitoring formats. In all the formats you can use Focusrite Control 2's Routing page to configure new monitor groups and switch between them at the touch of a button.

- Stereo, with alt monitors
- 7.1 surround
- 7.1.4 immersive.

Setting up stereo monitors



1. Outputs 1 and 2 – your main monitor pair, assigned to the **Main** monitor group.
2. Outputs 3 and 4 – an alternate monitor pair to test your mixes. Assigned to the **Alt 1** monitor group.

Tip

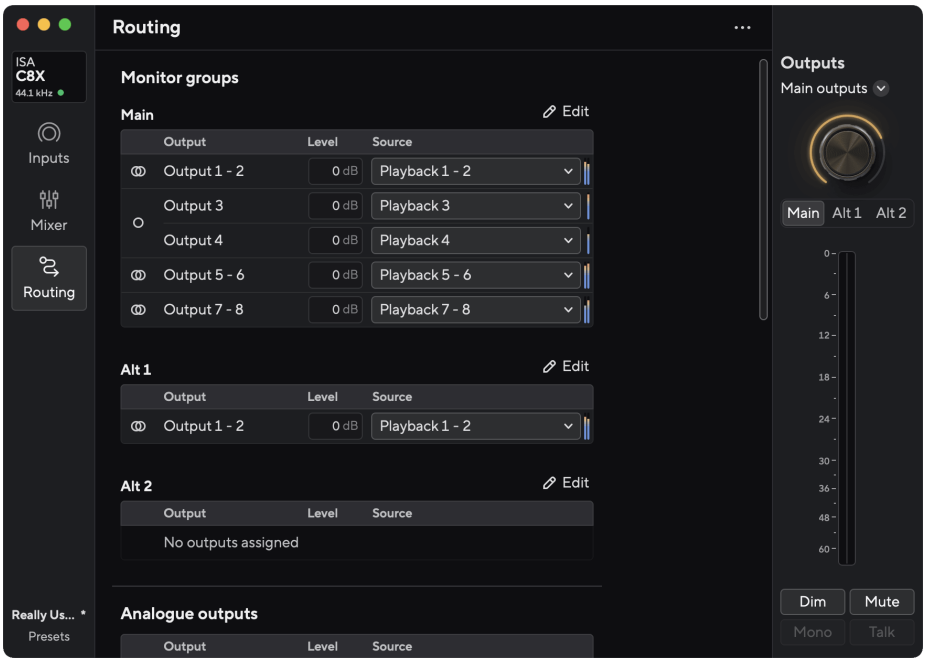
If you're only using two monitor pairs, the C8X has another eight outputs you could use for other purposes. For example you could use the extra outputs for effect sends and outboard equipment, or connect the outputs to a headphone amplifier.

Using Focusrite Control 2 you can assign various mixes, or playback channels to these outputs to add extra independent headphones mixes.

Setting up surround monitoring

This example shows a 7.1 surround sound system and the accompanying Focusrite Control 2 Routing page.

Speaker connections.



Focusrite Control 2 Routing page.

Channel order for 7.1 surround sound:

1. Left (front)
2. Right (front)
3. Centre speaker (Mono)
4. LFE (Low Frequency Effects) (Mono)
5. Left surround
6. Right surround
7. Left rear surround
8. Right rear surround

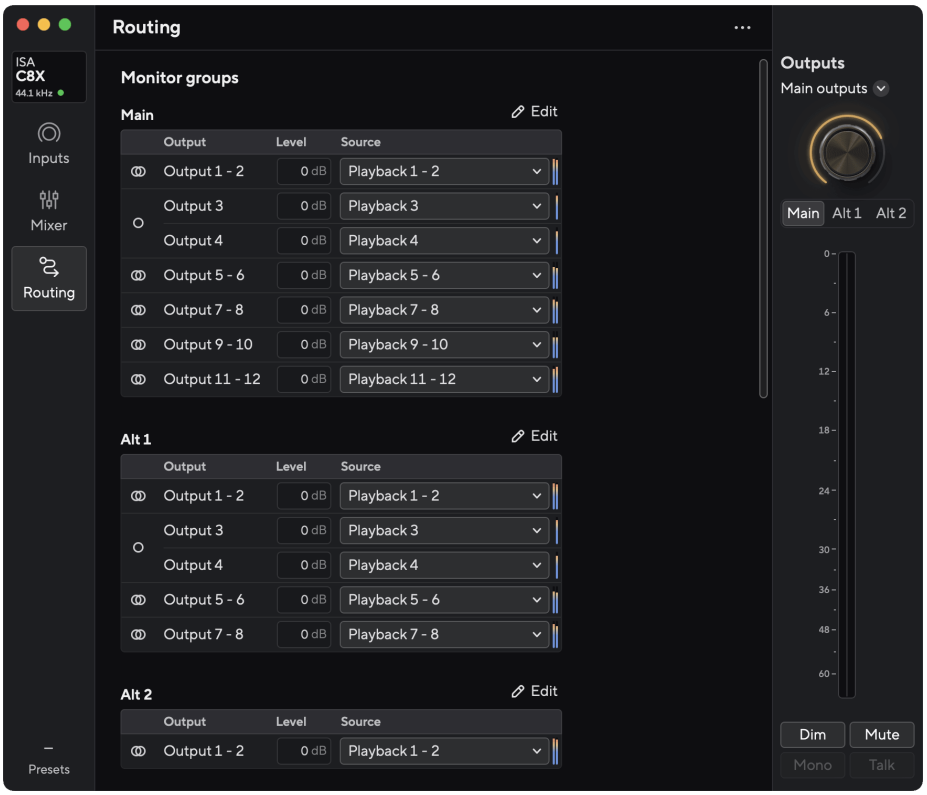
In the Focusrite Control 2 screenshot, Outputs 3 and 4 are mono as they send to speakers that aren't part of a stereo pair: the Centre speaker and the LFE speaker.

Important
Setting up a surround speaker format isn't as simple as just setting up the speakers and routing in Focusrite Control 2. You need to make sure the software you're using is capable, and setup, for monitoring in surround sound. Most DAWs have a settings page dedicated to setting up your monitoring format.

Setting up immersive monitor formats

Typical immersive mixing applications use: 5.1.2, 5.1.4, 7.1.2 or 7.1.4 speakers setups. This example shows a 7.1.4 immersive system and the accompanying Focusrite Control 2 Routing page. You can adapt this to your own system by reducing the channels you're using.

Speaker connections.



Focusrite Control 2 Routing page.

Channel order for 7.1 surround sound:

1. Left (front)
2. Right (front)
3. Centre speaker
4. LFE (Low Frequency Effects)
5. Left surround
6. Right surround
7. Left rear surround
8. Right rear surround
9. Left top front
10. Right top front
11. Left top rear
12. Right top rear

In the Focusrite Control 2 screenshot, we've also configured the Alt 1 and Alt 2 monitor groups. Alt 1 has all the channels of a 7.1 surround sound system and Alt 2 has a stereo monitor pair.

These monitor groups allow you to:

- Use **Main** to monitor in 7.1.4 for your immersive mixing.
- Press **Alt 1** to check your mix in 7.1 surround sound.
- Press **Alt 2** to check your mix in stereo. While you're using the Alt 2 monitor group, you can press the **Mono** button to check your mix in Mono.

Using Focusrite Control 2 with your ISA C8X

Focusrite Control 2 is the software you need to use to manage your interface. Focusrite Control 2 manages your routing, monitoring, mixer settings, and firmware updates.

macOS interface switching

If you're using your C8X on a macOS computer you can connect multiple interfaces and switch between them using the top-left tab in Focusrite Control 2.

This is useful for setting up multiple devices quickly. We don't support device aggregation.

Using the Focusrite Control 2 Mixer tab

Your C8X contains a mixer controllable from the Mixer page in Focusrite Control 2. You can use this mixer to combine and send input sources to your C8X's physical outputs using the Routing [53] tab.

The input sources to the mixer include:

- Physical inputs
  - Analogue inputs (Instrument, microphone, or line inputs)
  - Digital inputs (ADAT or S/PDIF)
- Playback inputs
  - Output channels from your DAW software
  - Software playback from other computer software.

Once you've created your mix, you can send this to the C8X's physical outputs to create a custom mix for your speakers, or an artist's headphone mix.

Mixes

The top bar of Focusrite Control 2's Mixer shows the different Mixes you have available listed as Mix A, Mix B, etc.

Each Mix allows you to combine inputs and send the mixes to outputs for different needs. For example, you may wish to use Mix A to listen to audio through speakers and Mix B for a singer's headphone mix. The singer may want their own vocals louder in their headphones, so you can increase the volume for Mix B only.

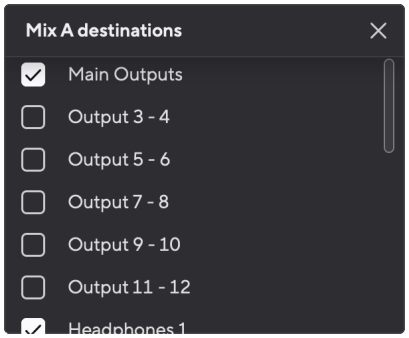
Tip

You **can** have multiple Mixes active at once in Focusrite Control 2.

Each Mix works independently, so, for example, you can route Mix A to your monitors and Mix B to headphones, without affecting each other.

Click a Mix to select it. You can now route it to any Output(s). To do this:

1. Click any existing Output, or the pencil icon right of **Routed to →**
2. Tick the **destinations** you want to send this Mix to.

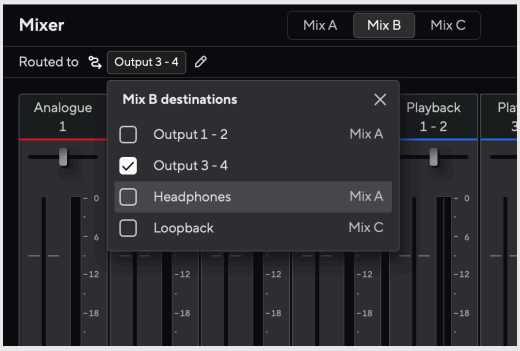


   For example, you could send Mix A to Outputs 1-2, where you may have connected your monitors, and Headphones. You could then hear the same mix in your headphones and monitors.
3. Click X to close the Mix destinations pop-up.

Above the mixer channels, you can see which Outputs your Mix is routed to. If you've not routed a Mix to an output, you'll see **No outputs assigned**.

Note

You can only feed each Output from one Mix. For example, you can't send Mix A and Mix B simultaneously to your headphones. When you're choosing Mix destinations, Focusrite Control 2 shows you if an output already has a feed from a different Mix. If you route the current Mix to an Output with a Mix already routed to it, it overwrites the routing to that Output.



Note

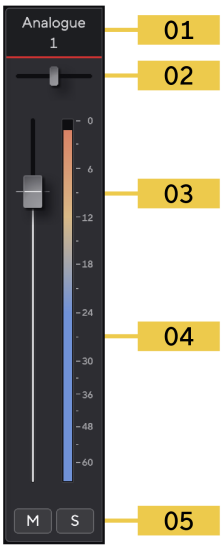
You can also change which outputs your mixes are going to in Focusrite Control 2's Routing tab, see Using the Focusrite Control 2 Routing tab [53] for more information.

Loopback Destination

If you would like to record the specific input mix you've made, choose **Loopback** as a Mix destination. See Using your ISA C8X's Loopback feature.

Using the Mixer Channels

Each mixer channel has several functions.



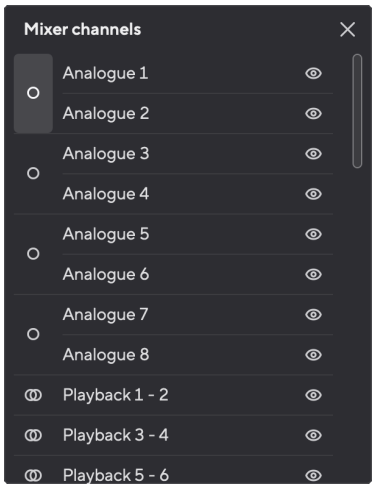
1. **Mix Channel Name**
   This shows the mixer input's name. To edit the name, click the text box and type. You can use your keyboard's tab key to quickly move between channels.
2. **Pan**
   Moves a mono channel's position in the stereo image from left to right, or changes a stereo channel's balance from left to right. The default is centre. Alt, option ⌥ click, or double-click, to reset.
3. **Fader**
   The Fader adjusts the level going to your Mix destination. Alt, option ⌥, or double-click to reset.
   The faders have no effect on the sources you are currently recording.
4. **Meter**
   This shows you the channel's level, in dBFS. blue shows a good level, and amber means the level is very high.
   You'll see two meters for stereo channels, one for each left and right side.
   The meter shows the level post-fader, the fader setting will affect the meter.
5. **Mute and Solo**
   Mute - Click the Mute button M to silence the channel in the Mix. The Mute button lights blue M when enabled. You can Mute multiple channels simultaneously.
   Solo - Click the Solo button S to solo the track by silencing all other channels in the Mix. The Solo button lights yellow S when enabled. Enabling Solo on multiple channels silences any channels without Solo enabled, i.e. you will hear all the Solo'd channels.
   If you enable both Mute and Solo, the last clicked option takes priority.

Making Mixer channels stereo or mono

In the Mixer tab you can make source stereo or mono to reflect the source type.

When you make a source Stereo each channel in the pair is automatically panned hard left and hard right.

By default, the hardware and ADAT inputs are all mono sources for the mixer; the Playback channels and S/PDIF inputs are stereo sources.

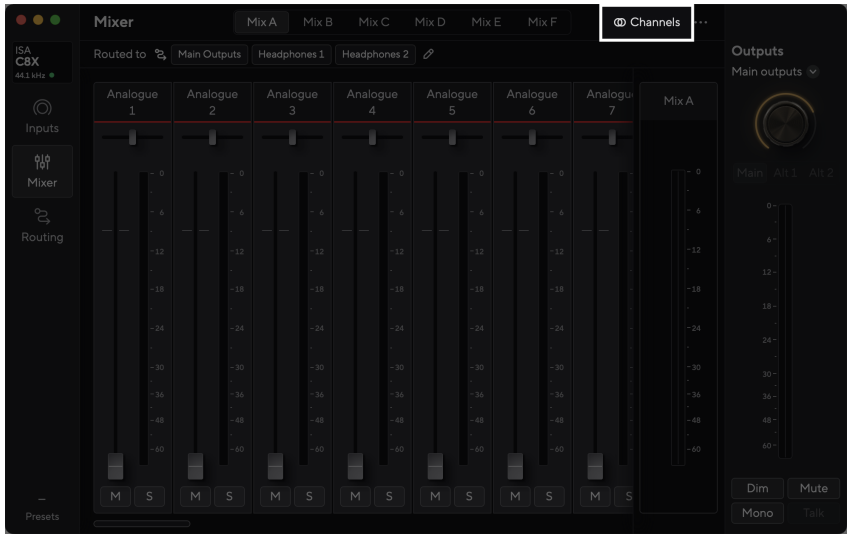


Mixer channels settings

To change sources between stereo and mono in Focusrite Control 2's Mixer tab:

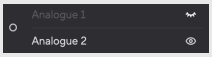
1. Go to the Mixer tab.

2. Click the Channels button in the top-right corner. 



3. Click the Mono/Stereo button to the left of the channel names.

Tip
To the right of the channel names, you can click the eye icon so hide/show channels in the Mixer.



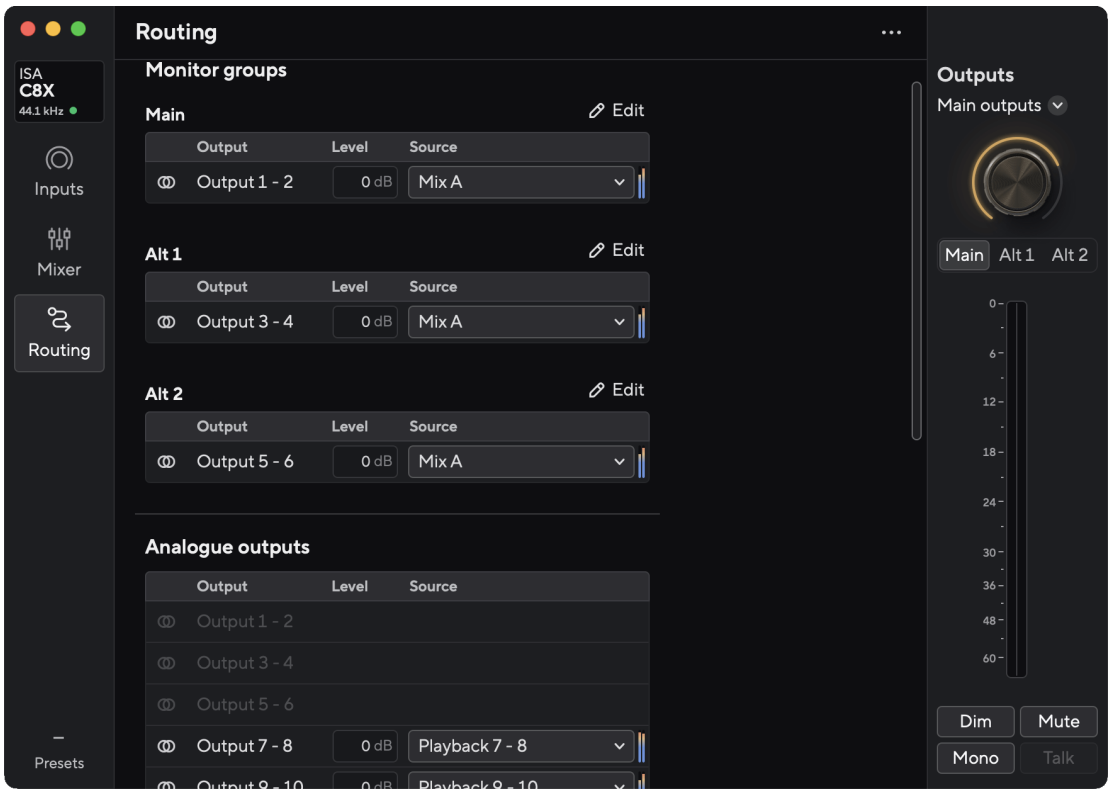
Hiding a channel hides it from all mixes.

Using the Focusrite Control 2 Routing tab

The routing tab in Focusrite Control 2 lets you organise what inputs and mixes you're sending to the outputs of your ISA C8X.

When you open the Routing tab, you'll see a list with columns for Outputs, Levels, and Sources:

- The **Output** list refers to each output on your C8X. There are sections for: Monitor Groups, Analogue outputs (line outputs, headphones) and Digital outputs (Loopback).
- The **Level** control is exclusively for the analogue outputs. This lets you trim, or reduce, the output level by a set dB level, for example to level match speakers or avoid clipping external equipment.
- The **Source** list lets you choose what to send to the corresponding output. Sources can be hardware inputs, DAW (software) playback channels, or a combination you've created as a Mix in Focusrite Control 2's Using the Focusrite Control 2 Mixer tab [46].



The Routing tab in Focusrite Control 2.

To assign a source to an output, find the output in the Output list and click the corresponding Source dropdown menu. Click a Source in the list to start sending that audio to the output. The meters to the right of the row show what you're sending to the output.

You can only feed each Output from one Mix. For example, you can't send Mix A and Mix B simultaneously to your headphones. When you're choosing Mix destinations, Focusrite Control 2 shows you if an output already has a feed from a different Mix. If you route the current Mix to an Output with a Mix already routed to it, it overwrites the routing to that Output.

Loopback

If you would like to record the specific input mix you've made, choose **Loopback** as a Mix destination. See Using your ISA C8X's Loopback feature.

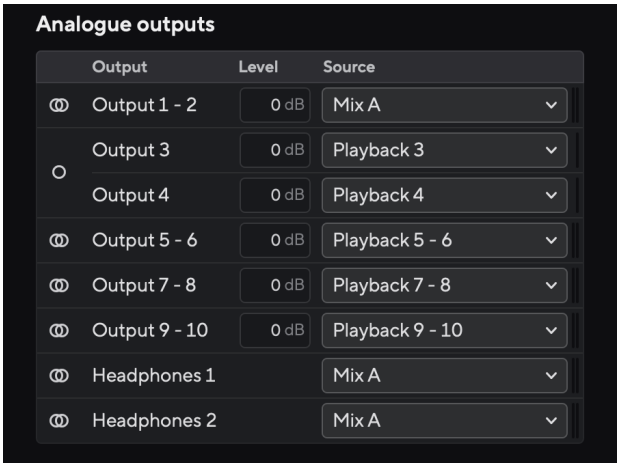
Making Outputs mono in Focusrite Control 2

In the Routing tab, you can split stereo outputs to make two mono outputs. This lets you send them completely independent sources. You might want to use this if you're sending mono channels to outboard

equipment, you have a mono speaker for testing your mixes, or for your Centre and LFE channels in surround or immersive monitor formats.

To make an output pair two mono channels, click the stereo symbol in the box to the left.

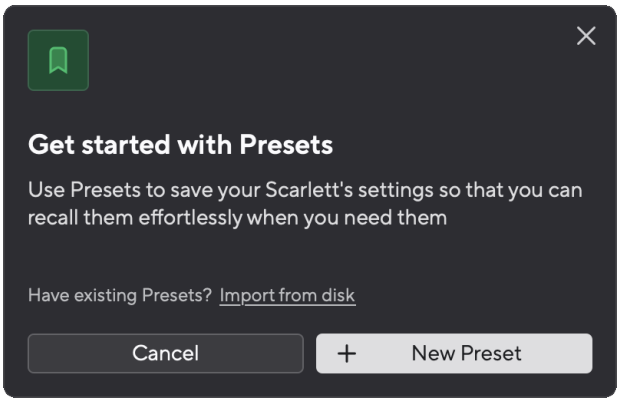
The single stereo output expands to two mono outputs. Each output has its own independent Source dropdown box.



To revert to a stereo pair, click the mono symbol in the box to the left.

Using Presets in Focusrite Control 2

Presets give you a way to quickly restore settings for your C8X. You can change the settings to suit a particular session or set up and save this as a nameable preset. Next time you need to recall those settings, you can Load the preset.



Presets contain the following settings:

- Input settings per channel:
    - Channel name
    - Input Gain
    - +48V
    - Inst
    - Air mode
    - Console
    - High-pass filter
    - Insert
- Mixer settings
    - Mix destination (Routed to →)
    - Pan and balance
    - Fader levels
    - Mute and Solo states
    - Mixer channel linking.
- Routing:
    - Mix sources
    - Output levels
    - Monitor groups.

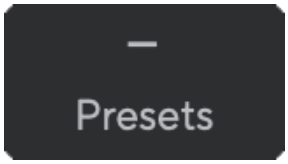
Note
Focusrite Control 2 saves presets to the computer you're using when you save it. However, your ISA C8X keeps its settings for use with a different computer or in standalone mode.

Saving a Preset

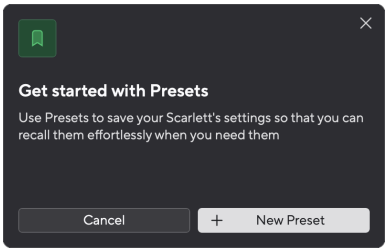
To use Presets in Focusrite Control 2 you need to change some settings. Once you've set up Focusrite Control 2 with some settings you want to recall in future, you can save a preset. There are two ways to save a preset: saving a New Preset or Overwrite an existing preset.

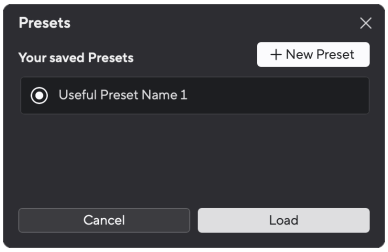
Saving a New Preset

1. Tweak the settings for your in Focusrite Control 2.
2. Click the Presets button in the bottom left of Focusrite Control 2.

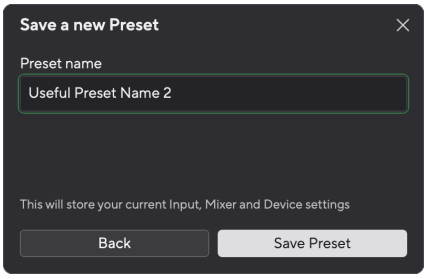


3. Click the New Preset button.



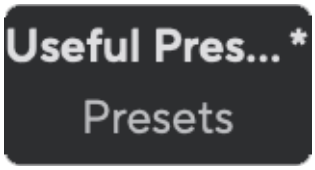


4. Type the preset name in the Preset Name field. Make sure the name is useful to find and reuse it later.



5. Click Save Preset.

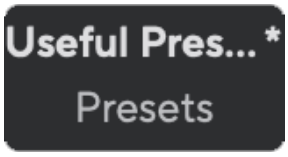
Once you've saved the preset, the preset name shows in the bottom left corner. If you change any setting while you're in that preset, the name shows an asterisk *.



When the name shows an asterisk * you can either create a new preset using the steps above, or you can overwrite the preset with the new changes.

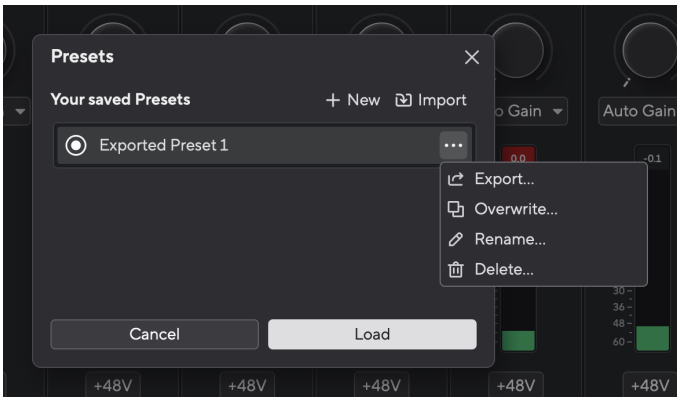
Overwriting a Preset

1. Tweak an existing preset so an asterisk * appears next to the Preset name.
2. Click the Presets button in the bottom left of Focusrite Control 2.



3. Hover your mouse over an existing preset and click on the three dots ··· to the right of the name.

4. Click Overwrite.



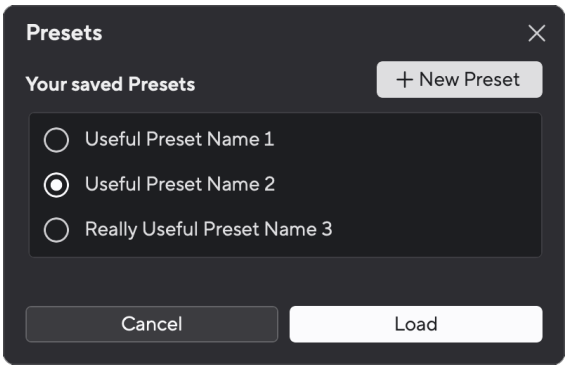
5. Before committing to overwriting a Preset, read the warning pop-up and click the Overwrite button to confirm overwriting the existing preset.

Caution
Overwriting a preset replaces the stored preset's settings with your current settings. You can't undo this change.

Loading a Preset

Loading a preset recalls a set of settings you've saved previously.

1. Click the Presets button in the bottom left of Focusrite Control 2.
2. Click the preset you want to load.



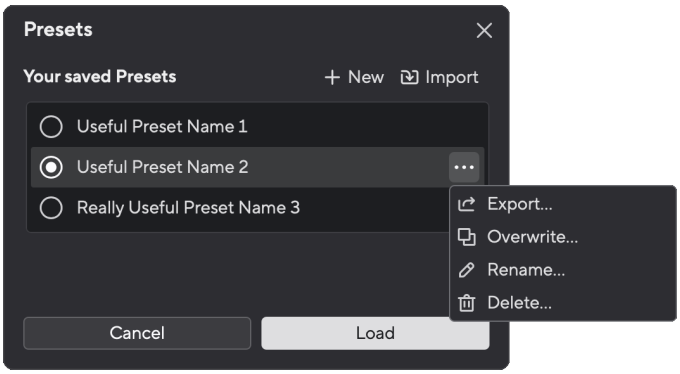
3. Click the Load button.

Renaming a Preset

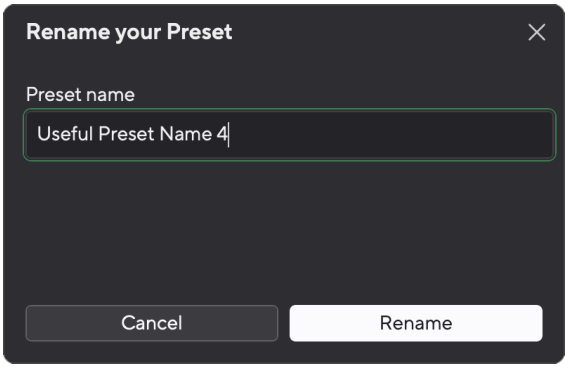
Renaming allows you to change a preset's name without changing the settings.

1. Click the Presets button in the bottom left of Focusrite Control 2.
2. Hover your mouse over an existing preset and click on the three dots to the right of the name.

3. Click Rename.



4. Type the new name for the Preset in the Preset Name field.

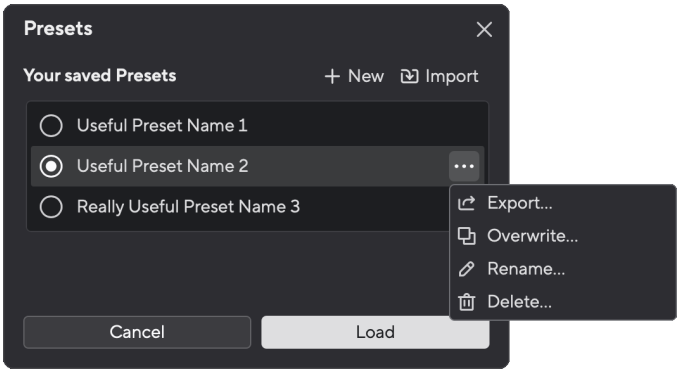


5. Click Rename Preset.

Deleting a Preset

Caution
Deleting a Preset removes the preset from Focusrite Control 2. You cannot get it back and you can't undo this action. Deleting a Preset won't change your interface's settings.

1. Click the Presets button in the bottom left of Focusrite Control 2.
2. Hover your mouse over an existing preset and click on the three dots to the right of the name.
3. Click Delete.



4. Before committing to deleting a Preset, read the warning pop-up and click the Delete button to confirm deleting the preset.

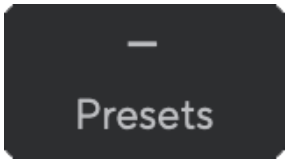
Exporting and Importing Presets

When you create Presets in Focusrite Control 2 they're either stored in Focusrite Control 2 or you can export the Presets to your computer. You can export these presets for many reasons, for example, as a backup, to duplicate your setup on another computer, or take them along to sessions with other artists or studios.

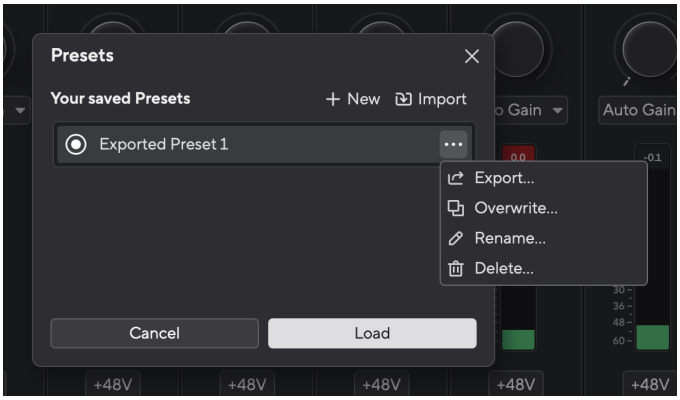
Once you've saved a Preset in Focusrite Control 2 (see Saving a Preset [55]) you can Export it to your computer.

To export a Focusrite Control 2 Preset:

1. Click the Presets button in the bottom left of Focusrite Control 2.



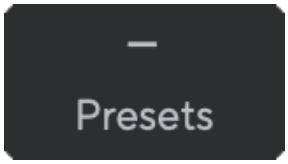
2. Hover your mouse over an existing preset and click on the three dots ··· to the right of the name.
3. Click Export.



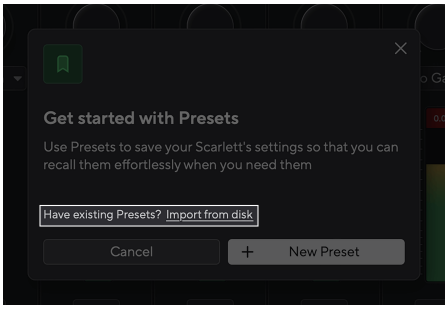
4. Choose a location to save the Preset.
   By default, Focusrite Control 2 adds your presets to a Folder in your documents called Focusrite Control 2. You can choose to save it to another folder you'd like to.

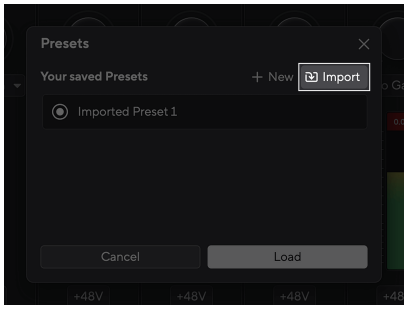
To import a Focusrite Control 2 Preset:

1. Click the Presets button in the bottom left of Focusrite Control 2.



2. Click Import from Disk, or Import if you already have Presets.

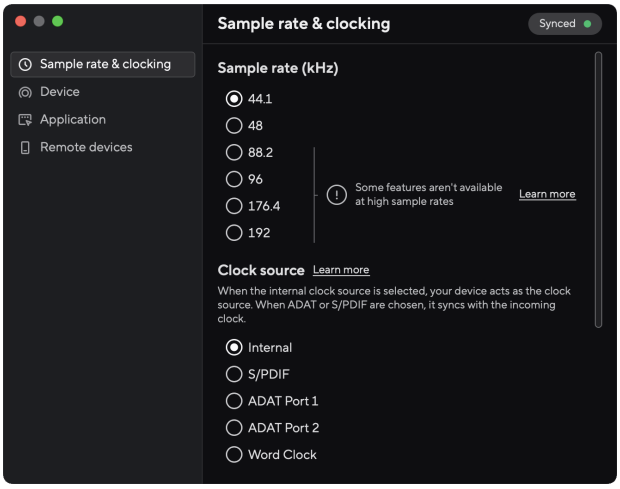




3. Find the location of the Preset you'd like to import.
4. Select the preset in your file browser and click Open. You can select more than one Preset to import.

Focusrite Control 2 Preferences

Click the ellipsis ··· in Focusrite Control 2's top right corner and click Preferences to open the Preferences page.



In the Preferences page, you have the tabs:

- Sample rate & clocking
- Device
- Application
- Remote Devices

Sample rate & clocking tab

Sample Rate (kHz)

Sample rate refers to the samples per second your computer is recording. The higher the value, the higher the quality; however, the higher the value, the more hard drive space your recordings take up.

Note

Some features, listed below, are not available at quad-band sample rates (176.4 and 192kHz).

- Air Presence & Drive (Air Presence still works)
- Mix Sources
- Coaxial S/PDIF
- Optical S/PDIF
- ADAT Channels

Clock Source

Clock source sets how your ISA synchronises in your set-up. Usually you'll set this to Internal, but if you're using another device connected to the ADAT or S/PDIF inputs on your ISA you may need to change the clock source.

The Clock Sources available are:

- Internal
- S/PDIF
- ADAT Port 1

- ADAT Port 2
- Word Clock

Setting the digital port modes

This section lets you configure your C8X digital ports.

For more information on channel ordering and which channels you can use simultaneously with your C8X, see the section ISA C8X Specifications [65].

Digital port mode

You can change your ISA's optical port to be able to receive either ADAT or optical S/PDIF signals.

The two options available are:

- **RCA (Coaxial) S/PDIF** mode - use this option to use the coaxial ports with coaxial S/PDIF devices.
  - At single-band sample rates, Optical In/Out 1 can receive/send eight ADAT channels while you're using coaxial S/PDIF
  - At dual-band sample rates, Optical In/Out 1 can receive/send four ADAT channels while you're using coaxial S/PDIF, Optical in 2 is disabled.
  - At quad-band sample rates, the Optical ports are disabled. Coaxial S/PDIF in Is also disabled.
- **Optical S/PDIF** mode - use this option to use Optical In/Out 2 as Optical S/PDIF ports.
  - At single-band sample rates, Optical In/Out 1 can receive/send eight ADAT channels while you're using Optical In/Out 2 for optical S/PDIF.
  - At dual-band sample rates, Optical In/Out 1 can receive/send four ADAT channels while you're using Optical In/Out 2 for optical S/PDIF.
  - At quad-band sample rates, the Optical ports are disabled. Coaxial S/PDIF In is also disabled.

Dual ADAT mode

Dual ADAT mode lets you use both ADAT ports to increase the ADAT channel count.

At single-band sample rates (44.1kHz and 48kHz) your ISA C8X can receive eight channels at each port for 16 channels of ADAT. At dual-band sample rates (88.2kHz and 96kHz) Dual ADAT mode allows each port to receive four channels for eight ADAT channels.

In Dual ADAT mode, both S/PDIF options are disabled (coaxial and optical S/PDIF).

Note

This setting does not affect the Optical ports at quad-band sample rates.

At quad-band sample rates (176.4kHz and 192kHz), the Optical ports are disabled.

Device tab

Interface mode

The interface mode setting allows you to quickly change your interface's routing between using it as your main interface, connected to your computer, or using it as an ADAT expansion device with another interface.

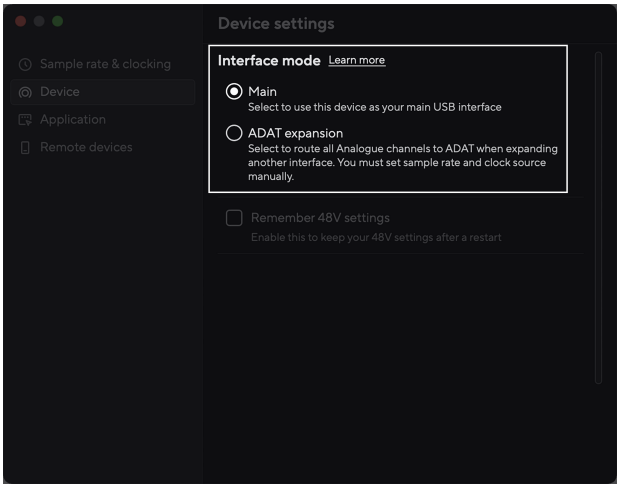
You can use the C8X's ADAT expansion mode with another Focusrite interface or an interface from another brand, if it has an ADAT input.

The two interface modes available are:

- **Main** – In this mode, you're using your C8X as your main interface, connecting it to your computer via USB and selecting it in your recording software.

- **ADAT Expansion** – In this mode, you're connecting the ADAT output of your C8X to another interface. When you select ADAT expansion the Routing is locked and changed on your C8X so the Analogue inputs are automatically routed to the ADAT output.

Important
ADAT Expansion mode doesn't change any Clock Source and Sample Rate settings as these depend on other devices in your system.



Note
In ADAT expansion, the routing is locked for most outputs, but we still let you choose the Headphones 1 and 2 sources. If your main interface has an ADAT Output this means you can send channels from your main interface to your C8X and gain extra headphone mixes.

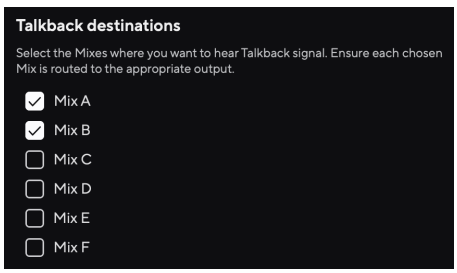
Remember 48V settings

A tick box to allow your ISA C8X to remember the 48V (phantom power) status after you turn off and on your device.

Talkback destinations

To use the Talk microphone, you need to tell your C8X where you want to send your talkback microphone. To do this:

1. Click the tick boxes next to the **Mixes** you want to send the talkback microphone to.



2. In the Routing tab, assign the Mixes as a **Source** to the outputs you want to send them to. For example, Send Mix A and Mix B to Headphones 1 and Headphones 2, so your artists can hear the talkback mic.
   For more information, see Using the Focusrite Control 2 Routing tab [53].

Device reset

Device reset returns your ISA to its default, factory, settings. A reset erases all the current input, mixer, and sample rate settings.

To do a device reset:

1. Click Reset to default settings.
2. Read the “Are you sure?” pop-up to make sure you want to Reset your ISA.
3. Click Reset.

Note
When you do a device reset, your presets are not deleted. So after you've factory reset your device, you reload any previous settings you've saved as a Preset.

Application tab

Mixer Metering

The Mixer metering setting allows you to change how the meters in the Mixer tab behave:

- Pre-fade – The meters always show the signal level, regardless of the fader position.
- Post-fade – The meters show the level after the fader. This mode is more representative of what you hear in the mix.

Clip reset timer

The clip reset timer lets you choose how long, in seconds, the meter's clip indicators stay on before resetting.

Usage data

Use this tick box to opt into usage analytics to help us make Focusrite Control 2 better. Please see our Privacy Policy for more information.

Remote Devices - Installing the Focusrite Control 2 mobile app

To accompany Focusrite Control 2 we've created the Focusrite Control 2 mobile app.

The mobile app lets you connect mobile devices on the same Wi-Fi® network as your computer to control and view Focusrite Control 2.

The remote devices tab lets you manage any phones or tablets you've previously connected to Focusrite Control 2.

The Focusrite Control 2 mobile app runs on Android and iOS, and you can download it from the Google Play Store or Apple App Store by clinking on this link or scanning the QR code on your mobile device:

fc2.focusrite.com/mobile/download

Note

The Focusrite Control 2 mobile app can only control the Focusrite Control 2 when it's running on your computer.

It's not possible to use the mobile app to control your ISA directly.

ISA C8X Specifications

These specifications allow you to compare your ISA C8X with other devices and make sure they'll work together. If you're not familiar with these specifications, don't worry you don't need to know this information to use your ISA C8X with most devices

Performance Specifications

Where possible, we measure all performance figures following AES17.

Supported Sample Rates	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz
Bit Depth	24-bit

ISA microphone inputs	
Frequency Response	20Hz-20kHz (±0.4dB)
Dynamic Range (A-weighted)	117dB
THD+N	-93dB (0.0023%)
Noise EIN (A-Weighted)	-128dB
Maximum Input Level (at minimum gain)	+16dBu
Gain Range	79dB
Input Impedance	800Ω (Low) 1.4kΩ (ISA 110), 2.4kΩ (Med) 7kΩ (High)
High Pass Filter (HPF)	75Hz cut-off frequency, 18dB/Octave
Insert Send and Return	
Signal	Balanced
Maximum Output Level (Send)	+16dBu
Maximum Input Level (Return)	+16dBu

Microphone inputs	
Frequency Response	20Hz-20kHz (±0.1dB)
Dynamic Range (A-weighted)	116dB
THD+N	-100dB (0.001%)
Noise EIN (A-Weighted)	-127dB
Maximum Input Level (at minimum gain)	+16dBu
Gain Range	69dB
Input Impedance	3.2kΩ

Fixed-level Line Inputs	
Frequency Response	20Hz-20kHz (±0.05dB)
Dynamic Range (A-weighted)	120dB
THD+N	<-105dB (0.00056%)
Maximum Input Level (at minimum gain)	+24dBu
Input Impedance	

Instrument Inputs	
Frequency Response	20Hz-20kHz (±0.5dB)
Dynamic Range (A-weighted)	117dB
THD+N	-89dB (0.0036%)
Maximum Input Level (at minimum gain)	+15dBu
Gain Range	79dB
Input Impedance	Low: 400kΩ, High: 1.2MΩ

Line Outputs	
Frequency Response	20Hz-20kHz (±0.02dB)
Dynamic Range (A-weighted)	125dB
THD+N	-113dB (0.00023%)
Maximum Output Level	+24dBu
Output impedance	200Ω

Headphone Outputs	
Frequency Response	20Hz-20kHz (±0.1dB)
Dynamic Range (A-weighted)	114dB @ 33Ω 116dB @ 300Ω 116dB @ 600Ω
THD+N	-102dB @ 33Ω -110dB @ 300Ω -110dB @ 600Ω
Maximum Output Level	+8dBu @ 33Ω +11dBu @ 300Ω +11dBu @ 600Ω
Maximum Output Power	130mW @ 33Ω 28mW @ 300Ω 14mW @ 600Ω
Output impedance	3Ω

ISA C8X Weight and Dimensions

Weight	5.6kg (12.13lbs)
Height	88mm (3.46"/2U)
Width	482mm (18.98")
Depth	325mm (12.8")

A diagram of the ISA C8X with dimensions.

Appendices

Preamp input impedance

The sound of a microphone preamplifier depends on how the microphone interacts with the type of preamp technology it is connected to. This interaction mainly affects the level and frequency response of the microphone.

Level

Professional microphones usually have low output impedances, which means that you can get more level by choosing the higher impedance settings on the mic preamp.

Frequency response

Microphones with specific presence peaks and customised frequency responses can be further improved by selecting lower impedance settings. Higher input impedance values will enhance the high-frequency response of the connected microphone, providing better ambient detail and clarity, even with average-performance microphones. Experiment with different microphone/preamp impedance combinations to achieve the desired colouration for the instrument or voice being recorded. For a creative approach to using impedance selection, refer to the section on how microphone output impedance and mic preamp input impedance interact.

Impedance setting – quick guide
In general, the following selections get the following results:

High mic preamp impedance settings:

- Generate more overall level
- Tend to make low- and mid-frequency responses of the microphone flatter
- Improve the high-frequency response of the microphone.

Low preamp impedance settings:

- Reduce the microphone output level
- Tend to emphasise the low- and mid-frequency presence peaks and resonant points of the microphone.

Switchable impedance in-depth explanation

Dynamic moving coil and condenser microphones

Professional dynamic and condenser microphones usually have a low output impedance of 150Ω to 300Ω when measured at 1kHz. This low output impedance brings several advantages:

- They are less susceptible to noise pickup
- They can drive long cables without high-frequency roll-off due to cable capacitance

Having a low preamp impedance can affect the microphone's output level because it loads down the microphone's voltage and highlights any changes in impedance at different frequencies. Matching the preamp resistance to the microphone's impedance (for example, setting the preamp input impedance to 200Ω for a 200Ω microphone) reduces the microphone's output and signal-to-noise ratio by 6dB, which is not ideal.

Preamps are designed with an input impedance about ten times greater than the average microphone, typically ranging from 1.2kΩ to 2kΩ, to reduce microphone loading and improve signal-to-noise ratio. Higher input impedance settings, above 2kΩ, minimize frequency-related variations in microphone outputs

compared to lower impedance settings. As a result, high input impedance settings provide a more balanced performance across low, mid, and high frequencies.

Ribbon microphones

The impedance of a ribbon microphone is worthy of special mention, as this type of microphone is affected enormously by preamp impedance.

A ribbon microphone has low impedance of about 0.2Ω. It needs an output transformer to increase the voltage level for the amplifier. The transformer has a ratio of 1:30 to boost the voltage. This ratio also raises the microphone's output impedance to around 200Ω at 1kHz.

The transformer impedance changes with frequency. It can increase a lot at certain frequencies (resonance point) and decrease at low and high frequencies. Just like dynamic and condenser microphones, the input impedance of the mic preamp affects the signal level and frequency response of the ribbon microphone's output transformer, and the microphone's sound quality. It's suggested that the mic preamp connected to a ribbon microphone should have an input impedance at least five times greater than the microphone's impedance.

For a ribbon microphone impedance of 30Ω to 120Ω, the input impedance of 600Ω (Low) will work fine. For 120Ω to 200Ω ribbon microphones, the input impedance setting of 1.4kΩ (ISA 110) is recommended.

Notices

Troubleshooting

For all troubleshooting queries, please visit the Focusrite Help Centre at support.focusrite.com.

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ISA C8X Credits

Focusrite would like to thank the following ISA C8X team members for their hard work in bringing you this product:

Aaron Marshall, Adam Briffa, Alex Middleton-Dalby, Andy West, Andrew Dutton, Ben Bates, Ben Cochrane, Chris Graves, Dan Stephens, Danny Nugent, Ed Fry, Ed Reason, Ella McClary, Emily Cole, Emma Davies, Ernesto Artaza, Francis Kent, Gagan Mudhar, George, Hannah Budworth, Hannah Williams, Harry Morley, Jack Cole, Jack Lane, Jake Helps, James Hallowell, Jed Fulwell, Jonathan Lee, Josh Wilkinson, Joshua Oates, Julia Laeger, Kiara Holm, Kieran Rigby, Krischa Tobias, Laurence Grantham-Clarke, Leo Garroch, Leo Schofield, Lewis Williams, Marc Smith, Mark Greenwood, Mary Browning, Matt Richardson, Max Bailey, Maz Zeeshan, Mike Richardson, Nigel Whitehead, Olly Stephenson, Oscar Goefron, Pete Carss, Phil, Robert Blaauboer, Rupert, Ryan Gray, Si Halstead, Stefan Archer, Stefan Elmes, Sophia Sanghera, Sophie Smith, Stratis Sofianos, Wade Dawson, Will Cunningham-Booth, and Will Hoult.

Authored by Ed Fry.