Saffire PRO 40

User Guide

Focusrite®

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Contents

Introduction

Thank you for purchasing Saffire PRO 40, the latest Focusrite professional multi-channel Firewire interface. You now have a complete solution for routing high quality audio in and out of your computer.

This Guide provides a detailed explanation of both the hardware and accompanying control software "Saffire PRO 40 Control" to help you achieve a thorough understanding of the product's operational features. We recommend that both users who are new to computer recording, as well as more experienced users, take the time to read through the user guide so that you are fully aware of all the possibilities that the Saffire PRO 40 and accompanying software has to offer.

If the main User Guide sections do not provide the information you need, be sure to consult http://www.focusrite.com/answerbase, which contains a comprehensive list of common technical support queries regarding the product to date.

Basics

The Saffire PRO 40 hardware interface provides the means for connecting microphones, line-level signals, instrument-level signals, and digital signals to your computer, which are then routed to your audio recording software / digital audio workstation (referred to throughout this user guide as "DAW").

All audio signals connected to the inputs, plus audio output from your computer programs are routed to the physical outputs for you to connect to an amp and speakers, powered monitors, headphones, analogue/digital mixer, and any other studio equipment that you wish to use.

There are also connectors for sending and receiving MIDI.

The accompanying software application, Saffire PRO 40 Control provides further recording, routing and monitoring options, as well as the ability to control global hardware settings such as sample rate and synchronisation.

Saffire PRO 40 Control software provides mixing and routing to and from the DAW, allowing control over which signals are sent from the sequencer to each output. All inputs on the Saffire PRO 40 are routed directly to your DAW software for recording, but Saffire PRO 40 Control also allows you to route these signals to your monitors so that you can listen to the audio signals with zero latency - before they arrive at your DAW.

Box Contents

Along with your Saffire PRO 40 you should have:

1 - 6 pin Firewire cable (also known as a IEEE1394 cable)
1 - IEC Power Cable
1 - CD containing installer software for Mac and Windows, Focusrite Plug-in Suite as well as this user guide.

Getting Started

The Saffire PRO 40 has 2 x 6 pin Firewire ports on the back. You can connect your computer to either Firewire port, and this will work with any of the current Firewire standards and connections; Firewire 400 (6 pin or 4 pin connection); and Firewire 800.

BEFORE YOU CONNNECT THE SAFFIRE PRO 40 TO YOUR COMPUTER, PLEASE RUN THE INSTALLER. This will ensure that the correct drivers are used, thus preventing any unexpected behaviour

The Saffire PRO 40 requires power, supplied via the included power cable.

The Saffire PRO 40 ships with a 6 pin Firewire cable. However on Windows laptops, the Firewire connection may be 4 pin Firewire. If this is the case with your computer, you will need to purchase a 6 pin to 4 pin cable.

You may have a Firewire 800 connector on your computer. In this case you will need to purchase a 6 pin Firewire 400 to 800 cable.

Note:
Firewire considerations - Most computers will generally be equipped with 1 Firewire bus. You may have multiple Firewire ports (connectors) on your computer, but these are all connected to 1 physical chip which controls the bus.

The Firewire chip is limited in the amount of data bandwidth it can handle, so the more Firewire devices connected to the Firewire bus, the more data the bus needs to handle, and the greater chance there is of having more data than can be dealt with.

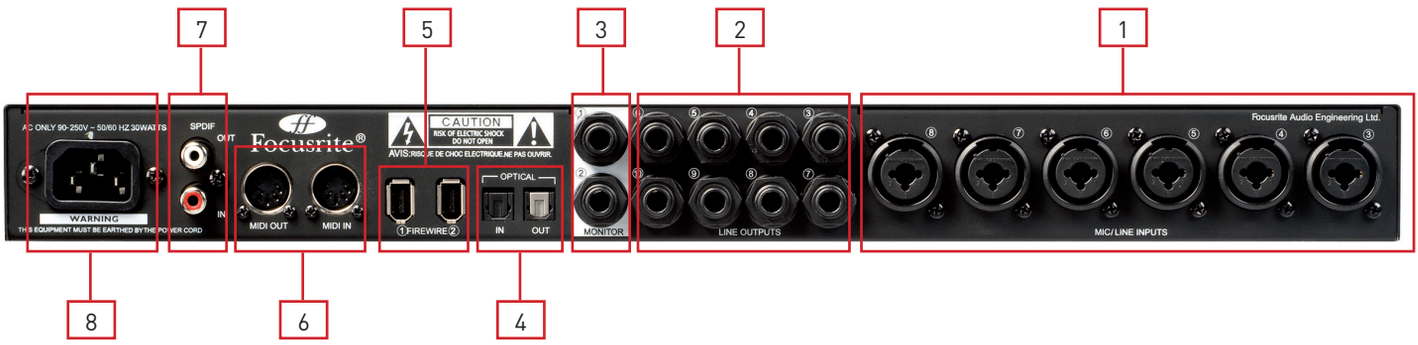
The Saffire PRO 40 should be able to work along side other devices connected to the same Firewire bus. However whether this will work for you will depend on what other Firewire devices are connected, and what they are doing. For example a Firewire disk used for back-up or a digital camera should not cause any problems; but when using a Firewire hard disk that is streaming all your samples, or a Firewire DSP box such as Focusrite Liquid Mix, (i.e. when there is a lot of data streaming on the Firewire bus,) there is a chance that more data is streamed than the Firewire chip can handle. This will result in audio drop outs, or reduced performance on either the Saffire PRO 40 or the other connected Firewire device.

For this reason, we would recommend that you use a separate Firewire bus for each Firewire device. This may be a PCI / PCIe card in your desktop, or a PCMCIA or Express card in your Laptop.

Hardware

Back Panel

The Back Panel provides the majority of input and output connections on the Saffire PRO 40.



1. 6 Combo XLR input sockets for Mic / Line. – Each socket will accept an XLR, or 1/4 inch TRS (balanced) or TS (unbalanced) Jack connector.

2. 8 TRS jack sockets for balanced outputs 3-10. – will accept either balanced or unbalanced jacks.

3. 2 TRS jack sockets for balanced outputs main monitor mix. – will accept either balanced or unbalanced jacks.

4. 2 Optical ADAT input and output sockets - also available as additional S/PDIF optical i/o.

5. 2 IEEE 1394 6 pin Firewire sockets.

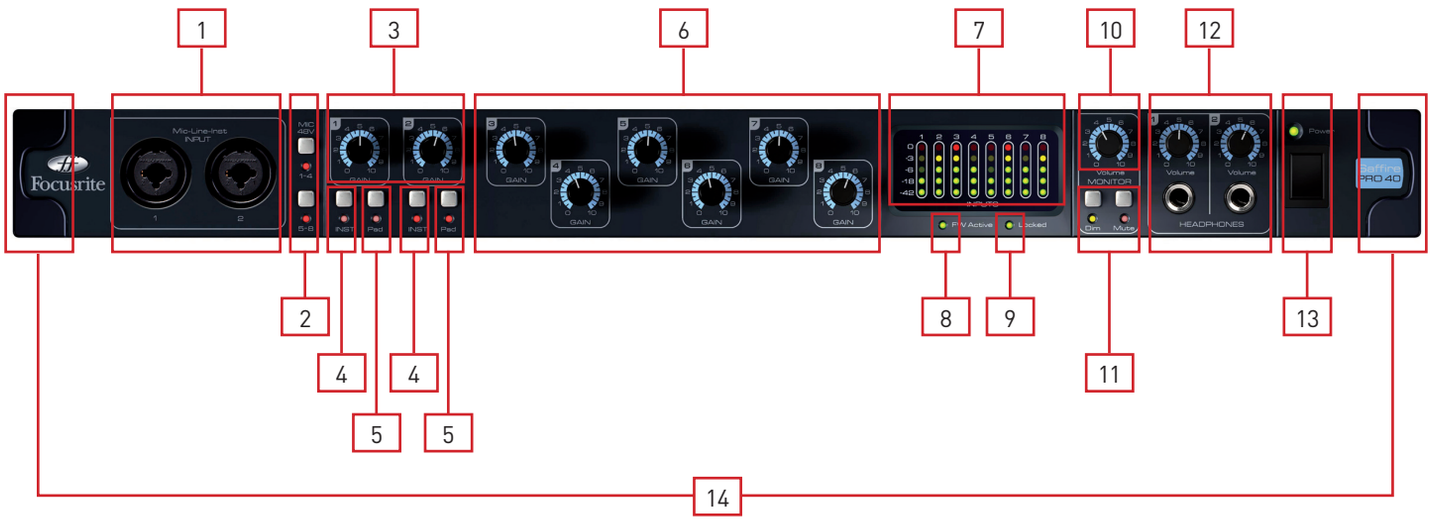
6. 2 Din5 MIDI input and output sockets.

7. 2 RCA S/PDIF input and output sockets.

8. 1 IEC Power inlet socket

Front Panel

The Front Panel includes the input connectors for Channels 1 and 2, as well as all the input gain controls and monitoring controls.



1. Channel 1 and 2 Combo XLR input sockets. Each socket will accept an XLR, or 1/4 inch TRS (balanced) or TS (unbalanced) Jack connector.

2. Two Phantom power switches with LED's for Mic inputs 1-4 and 5-8.

3. Channel 1 and 2 Gain control knobs – use these to set the level of your input signal

4. Instrument switch with LED.

5. Pad switch with LED. Maximum Signal input level without pads is +7dBu, with pads is +16dBu

6. Channels 3 to 8 Preamp Gain control knobs. – use these to set the level of your input signal

7. Signal level meters for analogue inputs 1-8: -42, -18, -6, -3, 0dBFS LEDs

8. Firewire active LED - Lit when the Saffire PRO 40 is successfully connected to the computer.

9. Synchronisation Lock LED – Lit when Saffire PRO 40 is either syncronised to its internal clock, or to an external digital input.

10. Monitor Level control pot. – Can be configured to control any number of the analogue outputs.

11. Monitor Dim and Mute switches with associated LEDs.

12. Headphones 1 & 2 level control and output 1/4 inch jacks.

13. Power switch and LED indicator. Lit when the unit is receiving power and is turned on

14. Removable rack ear covers – remove when fitting to a 19 inch rack.

Installation (Windows and Mac)

We aim to ensure that the latest installation software will be on the disk included with your Saffire PRO 40. However we strongly recommend that you check for the latest version of software on our website; www.focusrite.com before starting to work with your Saffire PRO 40 unit.

1. Insert your installer disk into your computer's CD-ROM drive.
2. You should see a window pop up showing the Saffire PRO 40 installer icon.
3. Double click on the installer icon to begin the installation process.
4. Follow onscreen instructions to complete the installation process.

Once the installation has been completed, your Computer OS should automatically switch its default audio outputs to be the Saffire PRO 40.

To make sure this is the case:

On Windows, go to Start → Control Panel → Sounds and Audio Devices → Set the input and output to Saffire PRO.

On Mac, go to System Preferences → Sound → Set the input and output to Saffire PRO.

For more detailed setup options on a Mac, go to Applications → Utilities → Audio Midi Set-up.

Audio Set-up in your DAW

The Saffire PRO 40 is compatible with any DAW that uses ASIO drivers on Windows, and any DAW that uses Core Audio on Mac.

Your DAW software will not automatically switch the device it used to input and output audio.

Ensure that the Saffire PRO is selected as the ASIO driver or Core Audio driver in your DAWs audio set-up page.

Please refer to your DAWs documentation if you are unsure where to select the ASIO / Core Audio driver.

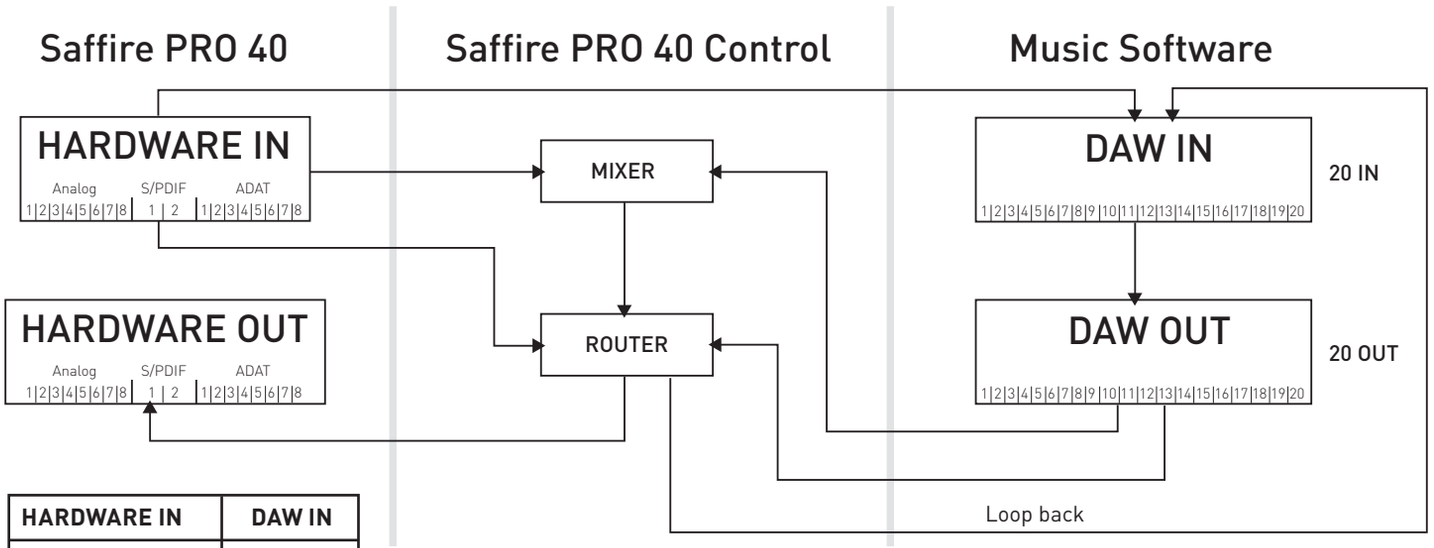
Saffire PRO 40 Architecture

Saffire PRO 40 offers more than just simple input and output routing to and from your computer. Saffire PRO 40 Control software also allows you to re-route audio signals to any output, and to create custom mixes to be sent to your recording artists, outboard processing equipment, or mixing console.

The following diagrams give an overview of the Saffire PRO 40 audio paths when set at different sample rates and S/PDIF configurations.

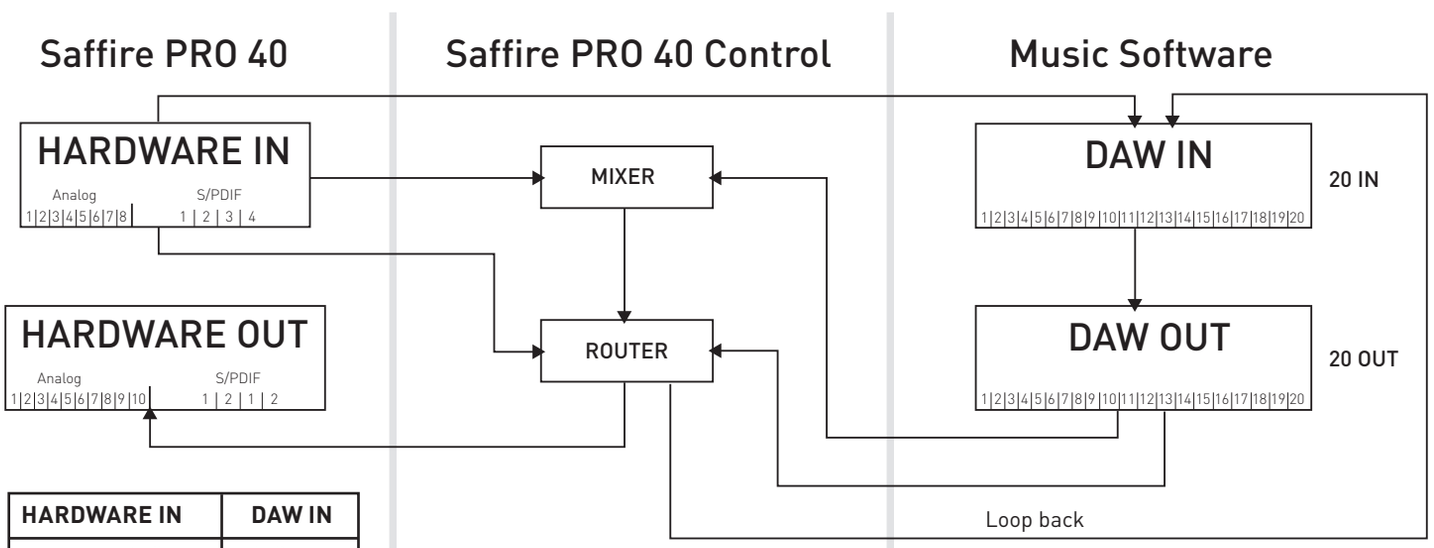
The Hardware Inputs are routed directly to the DAW Inputs. The table below each diagram shows the routing configuration.

44.1kHz / 48kHz Optical as ADAT



HARDWARE IN	DAW IN
Analogue 1-8	1-8
S/PDIF 1-2	9-10
ADAT 1-8	11-20
Loop back 1-2	19-20

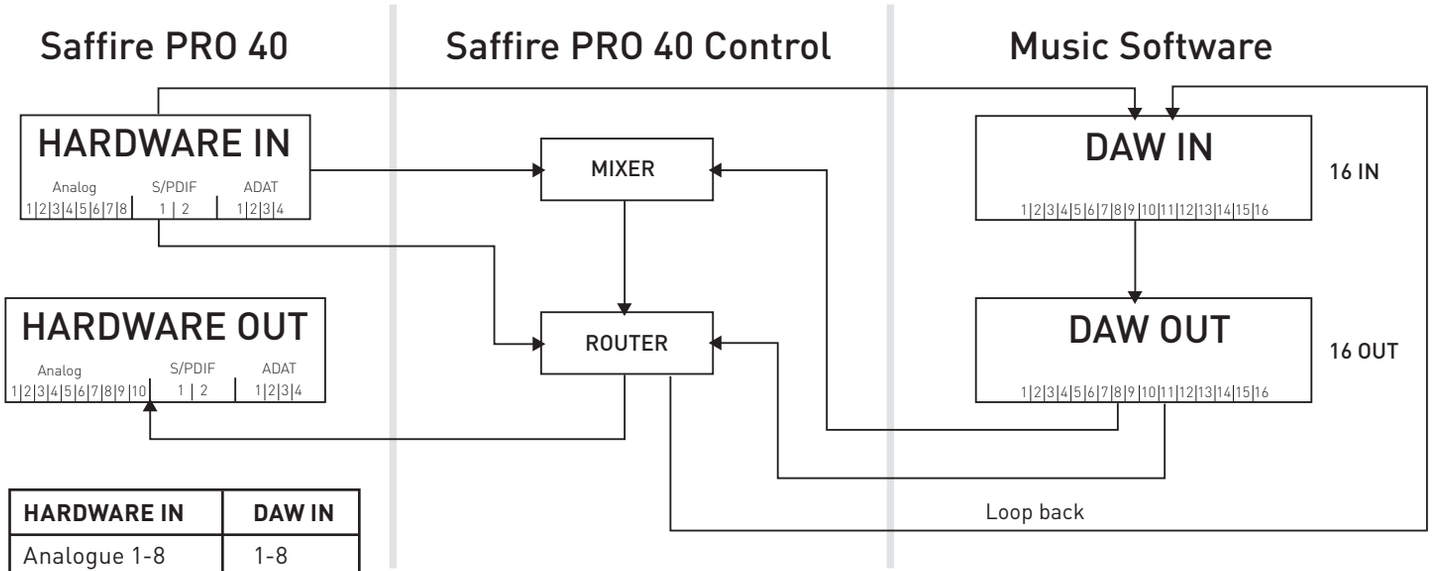
44.1kHz / 48kHz Optical as S/PDIF



HARDWARE IN	DAW IN
Analogue 1-8	1-8
S/PDIF 1-2	9-10
S/PDIF 1-2	11-12
Loop back 1-2	19-20

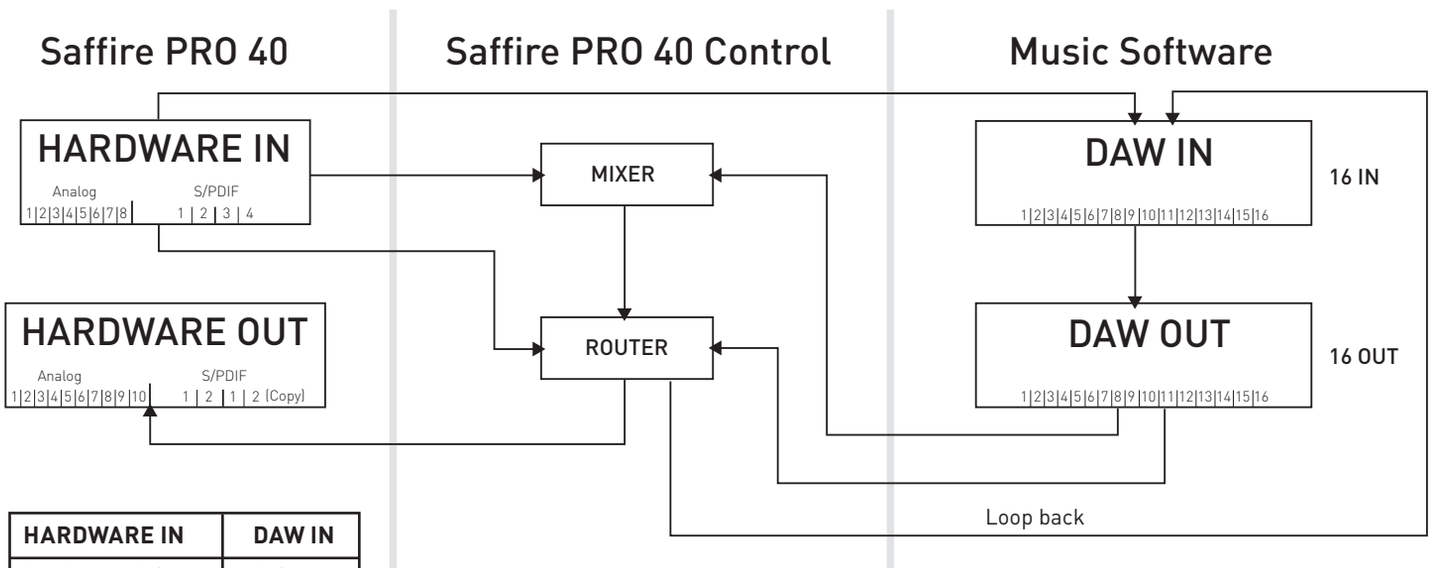
*DAW IN 13-18 are redundant

88.2kHz / 96kHz Optical as ADAT



HARDWARE IN	DAW IN
Analogue 1-8	1-8
S/PDIF 1-2	9-10
ADAT 1-4	11-14
Loop back 1-2	15-16

88.2kHz / 96kHz Optical as S/PDIF



HARDWARE IN	DAW IN
Analogue 1-8	1-8
S/PDIF 1-2	9-10
S/PDIF 3-4	11-12
Loop back 1-2	15-16

*DAW IN 13-14 are redundant

Saffire PRO 40 Control

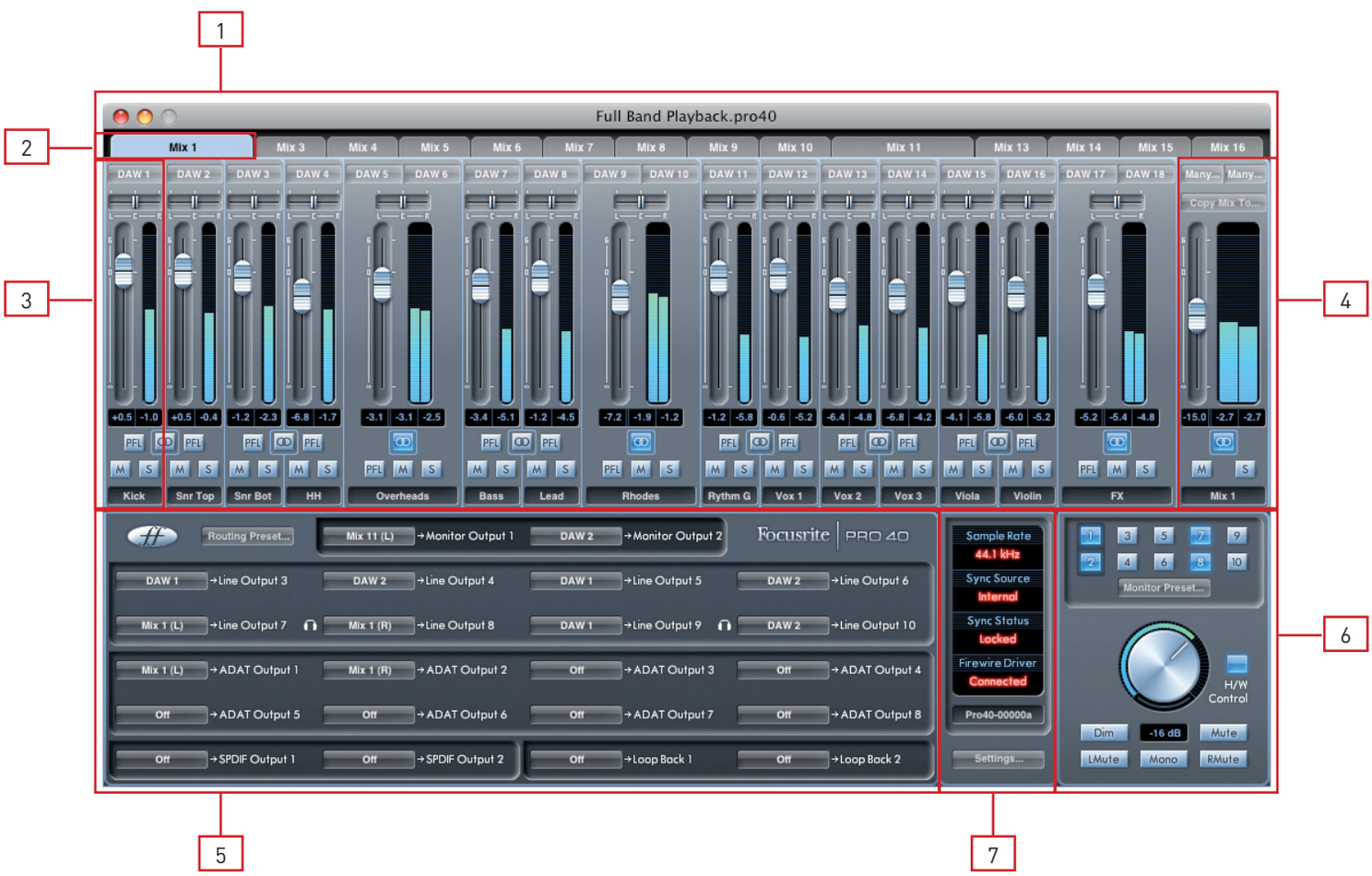
The Saffire PRO 40 Control software allows flexible mixing and routing of all audio signals to the physical audio outputs, as well as control of output monitor levels. All sample rate selection, digital syncing and buffer size settings (Windows only) are available from Saffire PRO 40 Control.

To open Saffire PRO 40 Control.

Windows
Start → Programs → Focusrite → Saffire PRO 40 Control.

Mac
Open Finder → Applications → Saffire PRO 40 Control.

This is how the Saffire PRO 40 Control Graphical Interface will appear on your computer.



1. Mixer
2. Mixer Tab
3. Mixer Input Channel
4. Mixer Output Channel
5. Routing Section
6. Monitor Section
7. Device Status Section

Mixer

The Saffire PRO 40 Control software includes a total of 16 mixes, each with a maximum of 18 channels in the mix. Up to 16 mono mixes or 8 stereo mixes, (or any combination of mono and stereo mixes,) are available, making up a total of 16 mix channels.

Each Mix can contain up to 18 of the possible 40 inputs signals, and each mix can be sent to any number of outputs.

Each mix shares the same source inputs, but all other mixer controls are independent in each mix.

The Mixer Section is used to create mixes for monitoring purposes. The mixes you create do not affect how the audio inputs are routed to the DAW, nor does it affect the audio level of the signal to be recorded. What you set up in the mixer section of Saffire Pro 40 Control only affects what is heard in the outputs.

The Input recording levels that are sent to the DAW are therefore those set on the hardware using the Gain knobs.

An example of one use for the mixer is to record multiple artists simultaneously. (e.g. a guitarist and a vocalist are recording at the same time, and you wish to provide them with a backing track and a feed of each other's input signal.)

The guitarist needs to hear mainly the backing track, her guitar, and some vocals. The vocalist needs to hear the backing track, a little of the guitar and lots of his vocals .

A separate mix can be created for each artist with the exact levels that he or she needs. Each artist has his or her own mix on a different mix tab.

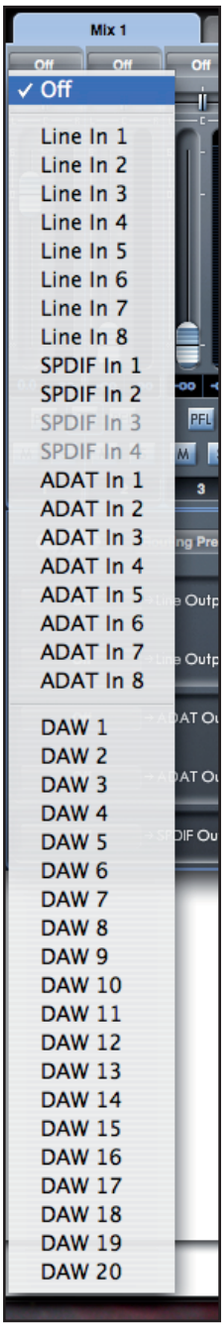
Mixer Tab

Each mix can be selected on the corresponding mixer tab.

Input Channel

Here is a picture of 2 mixer input channels. Below is a description of every component of a mixer channel.

Audio source select



When there is no input to a mixer channel, it will display "off".

Clicking on the "off" region brings up a list of all available inputs that can be fed to the channel. All analogue (labelled 'Line') and digital inputs, and DAW outputs are available.

When selecting a source on a stereo channel, if an odd numbered input is chosen for the left channel, the next even number input is auto selected for right, and Vice Versa

Note that if an input has already been taken, it will be greyed out and you cannot select it again. The input needs to be deselected from the track where it is already taken, and then re-selected on the desired track.

To get your sounds from your DAW or other computer applications into the mixer, you should select 'DAW 1' and 'DAW 2' on a stereo input track.

Pan Slider

A Pan Slider is used to position the audio signal anywhere between the left and right speakers.

Moving the horizontal slider from left to right will move the audio signal from left to right within the stereo field, i.e., the signal is faded between two audio outputs such as monitor L and R.

When used with a stereo track, the slider affects the audio signal such that when fully left, only the left channel is heard, and when fully right, only the right channel is heard

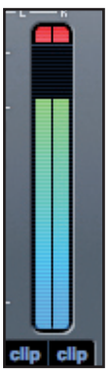
Fader

Use the fader to set the level of your audio signal for monitoring within the current mixer.

Click the fader with your mouse and drag to any position. Double click on the fader to set it to 0.

Fader range is from -∞ to +6 dB with the current fader level displayed in the box below.

Meter



The meter shows the signal level of the source input to the channel. The maximum reached signal level is displayed in the box below.

The metering is always pre-fade - showing the level of the signal at the input, therefore the fader level has no effect on the metering.

Clip light
If the red portion at the top of the fader lights up, then the signal level is too high.
You will need to turn down the signal level by either using the gain knobs on the front panel for the analogue inputs, using the gain on the external devices connected to the digital inputs, or using the gain within the DAW.

Once the gains are lowered, click on the red portion to reset the clip light.

Mute

Pressing this button mutes the signal. Red indicates that Mute is active.

Solo

Pressing this button solos the signal. The level of the fader will affect the level of the soloed signal.
Yellow Indicates that Solo is active.

PFL (Pre-fade listen)

Pressing this button solos the signal and automatically routes it to Monitor 1 and 2. The level of the soloed signal is pre-fade (i.e. it will not be affected by the level of the fader). Green Indicates that PFL is active.

Stereo

Pressing this button combines 2 mono channels into 1 stereo channel.

Track Name

As a default, each track is given a number as a name. Double click to rename the track to something more useful such as 'Vocal Mic'.

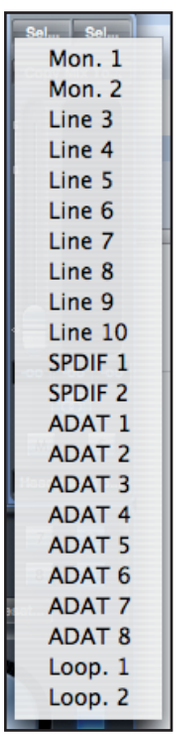
Output Channel

The output channel of the mixer is where all the input channels are routed to and mixed together. The output channel gives you control of the overall level of the entire mix.
You can send a mix to any or all hardware outputs; if a single output is selected this is displayed at the top of the output channel. "Many..." will be displayed if multiple outputs are selected.

The output channel can be either mono or stereo depending on the status of the stereo button. When the channel is set to stereo, you will see that the tab for that mix doubles in size. This is due to the fact that the stereo version takes up 2 channels of the available total output channel count.

Note that when pressing on the solo button on an output channel, that channel (i.e. the whole mix) is soloed and routed to Monitor outputs 1 and 2. This is a non-latching button.

Click on "Sel..." to chose the output destination of that mix.

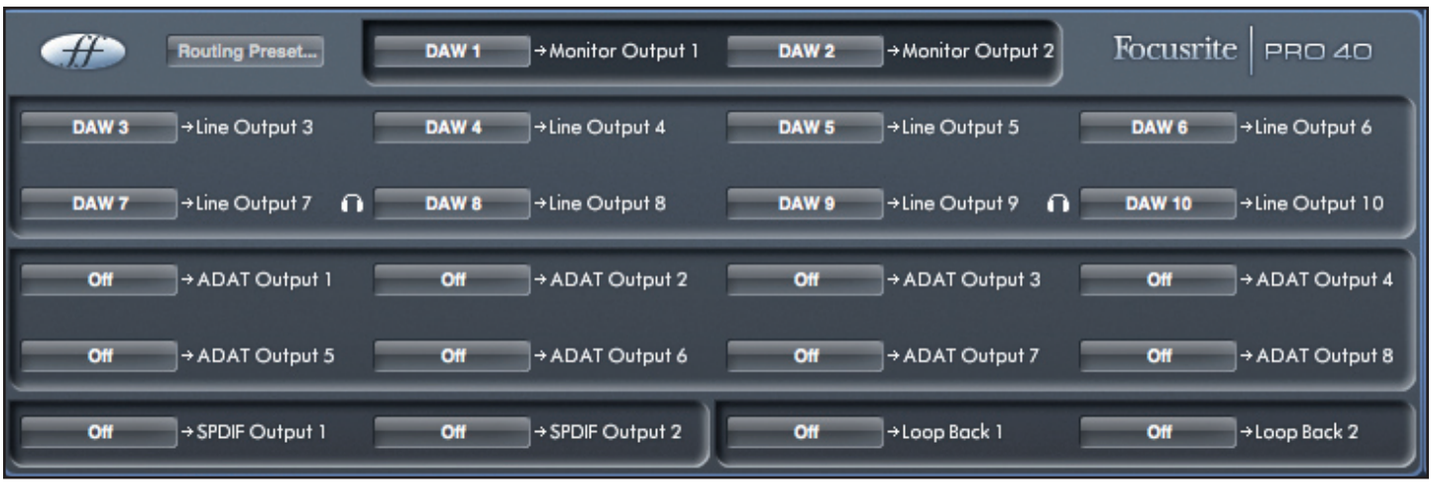


You can name the current mix by typing the desired name in the text field below the output channel. You will see the name appear in the mix tab. For example, Mix 1 can be renamed "Monitor Mix", and Mix 5 named "Headphone 1 Mix".

To copy an existing mix to another mix, simply click on "Copy Mix To..." and select the mix to which you would like to copy.

Note that you can only copy a stereo mix to another stereo mix, and a mono mix to another mono mix. Therefore you must make sure that you have correctly set up the output channels to either stereo or mono before copying the mix.

Routing Section



The routing section allows you to set up which audio sources are to be routed directly to which physical outputs.

The routing section displays every physical output on the Saffire PRO 40 and the audio stream to be sent to that output is available for selection in a drop down menu to the left of that output.

Clicking on the box to the left of the output label will bring up a list of all available audio output sources.

The available sources include:

- Any input stream
- Any DAW playback stream
- Any of the mixes from the mixer

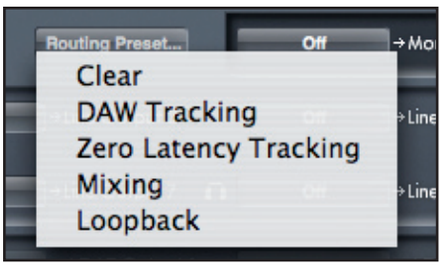
If you have named the mix (by clicking in the track name section – see previous chapter) then this name is displayed as the mix source name.

Note that the routing section is linked to the selection made for the output channel destination set-up in the mixer. If you have outputs pre-assigned from when you created your Mix, you will see the routing selections have been set up. Similarly, if you change the audio source from the routing section, the output of the mix will change automatically.

'Headphones 1' is a copy of line outputs 7 and 8
'Headphones 2' is a copy of line outputs 9 and 10.

When working at sample rates of 88.2kHz or 96kHz, the total number of ADAT channels available drops to 4 channels. ("ADAT SMUX. ") At these sample rates, ADAT channels 5-8 are greyed out.

Routing Presets



Routing Presets are provided as a starting point for you to create your own routing and mixer set-ups.
These will enable you to quickly set up your routing for recording (monitoring your inputs); mixing (sending signals out to outboard processors or external mixer); or internal looping (routing audio between software applications without leaving the computer).

Clear

This turns off all output routing. This can be used to re-set the routing for when you need to completely restart a configuration, meaning you do not have to manually turn everything off first.

DAW Tracking

'DAW Tracking' is used for the initial recording process. It will automatically output DAW 1 and 2 to be sent to all Line outputs and hence your main monitors (1+2) and to Headphone outputs 1 and 2. All input channels must be monitored from within the DAW application.

Zero Latency Tracking

Zero Latency Tracking is used for the recording process. It will automatically output Mix 1 and 2 to all your Line outputs simultaneously, and hence will route to the main monitors (1+2), and to the Headphone outputs 1 and 2. Line inputs and DAW outputs must be set up in Mix 1 so that you are able to monitor these sources with zero latency. You must also ensure that you are not monitoring the same signals from within your DAW at the same time, otherwise you will be monitoring the same signal twice (once direct from Saffire PRO 40 Control AND a second time (with latency) from your DAW.)

Mixing

'Mixing' is used for the mixing process. When sending signals out to a mixer or to external processing hardware, hardware outputs are typically set exactly as they are set in the DAW software. DAW outputs route directly to the line output of the same number. (DAW outputs 1-10 to Monitor Outputs 1-2, Line outputs 3-10.)

Loopback

Use when recording from one software program to another. For example, to record audio from your internet browser into your DAW, or to record from one DAW to another.

DAW 1 and 2 are routed back in a loop and are available for recording via inputs 19 and 20 in your DAW.

To prevent any audio feedback, make sure that the DAW you are recording into is not set to monitor its inputs. Alternatively, set the outputs of the DAW into which you are recording to 3 and 4; this allows you to monitor the inputs without feeding the signal back into the record stream.

Monitor Section

The output levels of the monitor outputs and line outputs are configured in the Monitor Section. You can set up your Saffire PRO 40 so that the hardware 'Monitor' knob on the Saffire PRO 40s front panel will control the desired outputs, such as your stereo monitors, your surround sound system. Alternatively the hardware 'Monitor' knob be deactivated for specific outputs e.g. when hardware volume control is required for a pair of monitor speakers, but not for additional outputs being sent to e.g. an external compressor. Additional controls such as mute, dim and mono are available.

Monitor control enable buttons (1 to 10)

The monitor control enable buttons indicate which outputs are controlled by the monitor section on the GUI directly below the ten buttons. The Saffire PRO 40 can be set up so that you have hands-on control of volume levels, and depending on your monitoring set-up, you may control no speakers, just a single pair of speakers, or up to 10 speakers simultaneously.

(All digital output levels are unaffected by Saffire PRO 40 control. Use the output levels of the DAW to control digital output levels.)

Each button can be set to 1 of 3 possible states:

Blue - this output is controlled by the below monitor section.

Red - this output is not controlled by the below monitor section and it is muted.

Grey - this output is not controlled by the below monitor section and it is at full level.
To set a button to its Grey state, SHIFT + Click the button.

WARNING: When a Monitor control button is set to 'Grey', the signal routed to that output will be played back at full level. This may potentially result in a very loud signal being sent to your monitor speakers, headphones or other equipment.

Be cautious when setting your levels (in your DAW or the Saffire PRO 40 Control Mixer) before setting the monitor button to Grey.

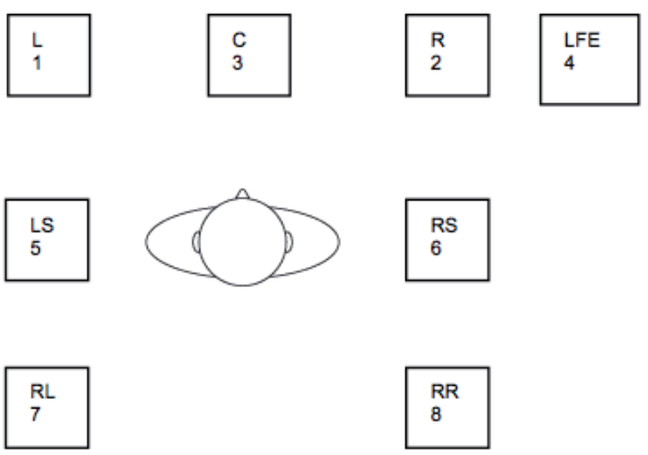
Monitor Presets dropdown menu

These presets allow quick changing of typical monitoring set-ups.

For the monitor presets to work, you must have your speakers connected to the line outputs as shown in the picture below.

Surround Sound Monitoring: Quad, 2.1, 5.1 or 7.1

1 Left
2 Right
3 Centre
4 Sub Woofer
5 Left Side
6 Right Side
7 Left Rear
8 Right Rear

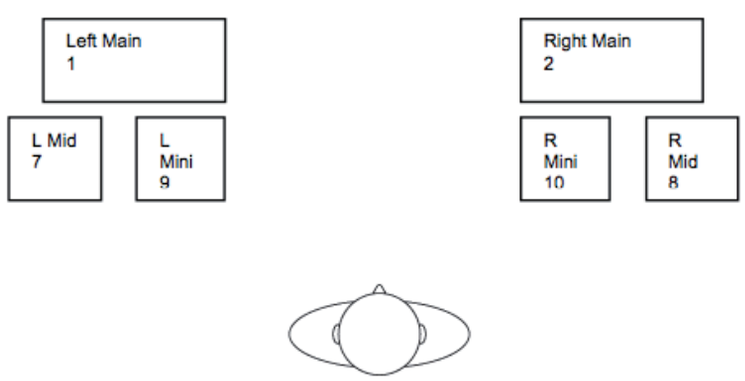


Loudspeaker Set-up: Main, Medium, Small

1 Left Main
2 Right Main

7 Left Medium
8 Right Medium

9 Left Small
10 Right Small



Monitor Presets

Off - no Monitor control buttons enabled, therefore no sound will come out of any analogue output.

Mono - outputs only to the Centre / mono speaker (Line output 3.) All other channels are muted.	Output - 3
Stereo - outputs to Stereo speakers (Monitor 1 and 2 output.) All other channels are muted.	Outputs - 1,2
Quad - outputs to Monitor 1 and 2 outputs and Line 5 and 6 outputs. All other channels are muted.	Outputs - 1,2,7,8
2.1 Surround - outputs to Stereo speakers (Monitor 1 and 2 output) and Sub (Line output 4).	Outputs - 1,2,4
5.1 Surround - outputs to all 5.1 speakers. All other channels are muted.	Outputs - 1,2,3,4,7,8
7.1 Surround - outputs to all 7.1 speakers. All other channels are muted.	Outputs - 1,2,3,4,5,6,7,8
Mid + Phones 1 - outputs to Mid Speakers and Headphones 1.	Outputs - 7,8
Mini + Phones 2 - outputs to Mini Speakers and Headphones 2.	Outputs - 9,10

Monitor Section Controls

The Monitor section will affect those channels that have been selected for monitor control (indicated with a blue button, see above.)

Monitor level control knob

Set the output level of all assigned outputs using this knob. The output level can be adjusted using the mouse, or from the front panel control, depending on the status of the H/W Control button. The dB display below shows the current level to which the monitor knob is set.

Hardware control button

When lit, the monitor knob on the front panel takes control of the monitor level control knob. Mouse control of the monitor knob is disabled when active.

Note that if the hardware control is switched in and out, and the hardware control position does not match the software position, then the volume knob works in pick-up mode. A volume change will only occur when the position of the hardware knob matches or passes through the position of the software level. This will ensure that there are no sudden unwanted volume increases when the knob is moved.

Dim switch

Attenuates the output level by 18dB.

Mute switch

Mutes the output.

Left Mute switch

Mutes the left output.

Right Mute switch

Mutes the right output.

Mono switch

Sums (combines) the left and right signals. The combined signal is then sent out of both Left and Right outputs.

Remember that these dim, mute and mono buttons only affect the outputs selected for control (i.e. Blue) in the monitor control section.

Device Status section

The Device Status section shows information about the sample rate, synchronisation and driver status of the Saffire PRO 40. The desired sample rate can be set as well as external synchronisation options for using the Saffire PRO 40 with external digital devices.

Sample rate display

This displays the current Sample rate at which the Saffire PRO 40 is running. To change the Sample rate, click on the red sample rate value and select 44.1kHz, 48kHz, 88.2kHz, or 96kHz.

Note: it is advisable to quit your DAW application BEFORE you make sample rate changes to prevent any undesirable side-effects in your DAW!

Sync Source display

Displays the currently selected sync source (red display) – To change the sync source, click on the red sync source value and select Internal, ADAT, S/PDIF.

Sync source locked display

Displays "Locked" when the Saffire PRO 40 has successfully locked to the specified Sync Source.

If "No Lock" is seen, then the unit has been unable to lock to either an external ADAT or S/PDIF signal. If this is the case, then please check that digital cables are secure in their input sockets, and that the external digital devices have been set up as master devices.

Firewire Driver

This should display "Connected" at all times when the Saffire PRO 40 is connected to the computer via Firewire. If this shows "Disconnected" please check Firewire connections, check that the unit is switched on etc. If it still shows "Disconnected" then restart the computer and then re-start the Saffire PRO 40.

Unit Name Text Field

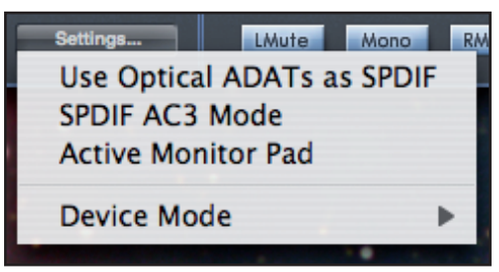
Allows naming of the Saffire PRO 40 unit. Double click in the field and enter your text. Press enter (return) on your computer keyboard to complete.

Settings Menu

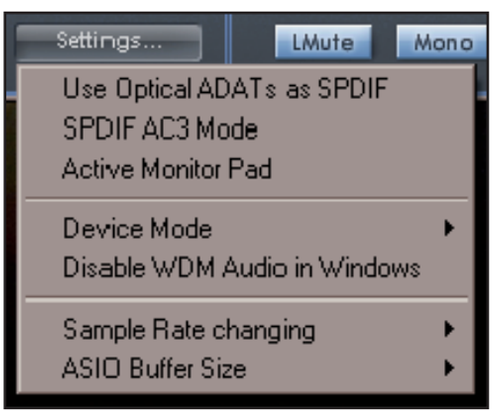
This is a dropdown menu containing all of the following items which allow you to set up different global/system configurations.

This is the only part of Saffire PRO 40 Control software where there are differences between the Windows and Mac versions.

Mac



Windows



Use Optical ADATs as S/PDIF

Here you can set the format of the optical digital input/output socket. It can either be an ADAT stream or an S/PDIF stream. (Useful for those who have S/PDIF equipment that only has an optical connector.) Note that the audio sent to the optical S/PDIF output is always exactly the same as the audio sent to the RCA output.

S/PDIF AC3

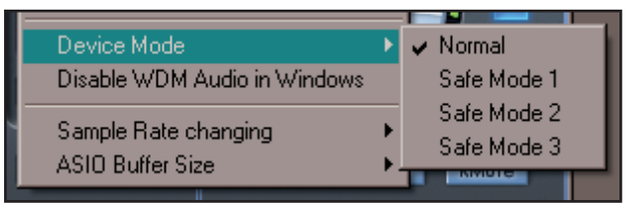
Allows the user to stream AC3 directly via the S/PDIF outputs. (AC3 is encoded 5.1 audio, e.g. from a DVD player, that will be sent via S/PDIF cable (RCA or Optical) to your 5.1 decoder.)

Active Monitor Pad

When ticked, this drops the level of monitors 1 and 2 by 20dB.
This is recommended for set-ups using a stereo pair of Active Monitors.
If you find that for normal listening levels, the Volume monitor knob has to be set at only e.g. 3 or 4, then tick 'Active Monitor Pad' and the volume monitor knob should now be at 6 or 7, thus giving you better control of the output volume level.

Device Mode

Normal Mode



The Saffire PRO 40s operation will be dictated by the buffer size specified in your DAW (Mac,) or as set in the ASIO buffer size (Windows.)

Safe Modes 1-3
Safe Modes 1-3 offer increasing levels of output buffer size.

If you are experiencing clicks and pops or audio dropouts, this may be due to certain hardware in your computer that is affecting the performance of audio devices connected via Firewire. Rather than removing and replacing hardware (e.g. your graphics card or wireless internet card) trying these 'safe modes' may solve the problem.

Disable WDM Audio in Windows

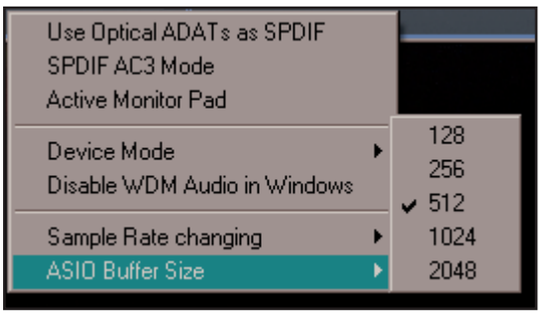
Tick this option to ensure that only audio from your DAW is played through the Saffire PRO 40.
Windows sounds will not be played through the Saffire PRO 40. Sounds from other software will not be played through the Saffire PRO 40.

This is useful to prevent any unwanted audio being heard when you are working in your DAW. It is especially useful when other applications output audio at a sample rate different from the sample rate at which your DAW is operating.

Sample Rate Changing

Unlock – Allows any WDM or ASIO application to change the Sample Rate.
ASIO only – Allows only ASIO applications to change the Sample Rate.
Control panel only – Allows only the Saffire PRO 40 Control panel to change the Sample Rate.

ASIO Buffer Size



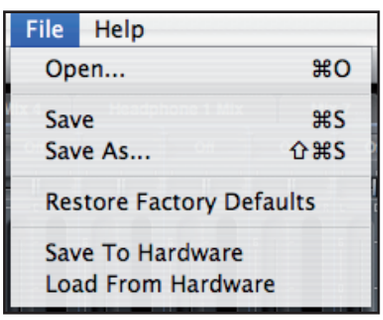
Set the buffer size of your ASIO driver here.

A small buffer size will in result in lower latency at the expense of increased CPU usage.
A high buffer size will result in a higher latency but with lower CPU usage.

If you are using lots of virtual instruments and effects processing in your DAW project, and the CPU usage is high, then increase the buffer size to permit lower CPU usage.

File Menu

Mac



Windows

Open - opens a File open dialog allowing selection of any pre-saved Saffire PRO 40 Control set-ups.

Save - opens a File save dialog allowing selection of a location into which your Saffire PRO 40 Control set-up can be saved. Subsequent saves overwrite the original file.

Save As - opens a File save dialog allowing selection of a location into which your Saffire PRO 40 Control set-up can be saved. Use this option if you want to keep your original saved set-up and create a new one with a different name.

Restore Factory Default - Causes the Saffire PRO 40 to revert to the original default state in which it left the factory. This can be used to globally reset all mixer, routing, and monitor settings, allowing creation of a new set-up from scratch.

Save to Hardware - This saves the current Saffire PRO 40 Control set-up to the Saffire PRO 40 hardware. If you are moving the Saffire PRO 40 from one computer to another and want to retain the set-up, then choose this option. Note that Saffire PRO 40 Control does not automatically load from hardware (as this would overwrite a current set-up); it must be loaded manually.

Load from Hardware - This loads the saved set-up from the Saffire PRO 40 hardware into the Saffire PRO 40 Control software.

As you can see from the above screen shots, 'Open', 'Save' and 'Save as' all have keyboard shortcuts. These are standard shortcuts for their respective functions, so if you are regularly changing settings for your various sessions, then the shortcuts will reduce your set-up time.

Saffire PRO 40 Specifications

MIC

- Frequency Response: 20Hz - 20kHz +/- 0.1 dB.
- THD+N: 0.001% (measured at 1kHz with a 20Hz/22kHz band pass filter).
- Noise: EIN > 125dB (128dB analogue to digital): measured at ~60dB of gain with 150 Ohm termination (20Hz/22kHz band pass filter).

LINE

- Frequency Response: 20Hz - 20kHz +/- 0.1dB.
- THD+N: <0.001% (measured with 0dBFS equivalent input and 22Hz/22kHz band pass filter).
- Noise: -90dBu (22Hz/22kHz band pass filter).

INSTRUMENT

- Frequency Response: 20Hz - 20kHz +/- 0.1dB.
- THD+N: 0.004% (measured with 0dBu input and 20Hz/22kHz band pass filter).
- Noise: -87dBu (20Hz/22kHz band pass filter).

DIGITAL PERFORMANCE

- Clock Sources:
  - Internal clock.
  - Sync to word clock on S/PDIF (coaxial input).
  - Sync to word clock on ADAT input.
  - Sync to word clock on optical S/PDIF input (when enabled).
- A/D Dynamic Range 110dB 'A-weighted' (all inputs).
- D/A Dynamic Range 110dB 'A-weighted' (all outputs).
- JetPLLTM PLL technology providing superb jitter reduction, for class leading converter performance.
- Clock Jitter < 250 pico seconds.
- Sample rates: 44.1 to 96kHz.
- 20 input channels to computer: Analogue (8), S/PDIF (2), ADAT (8) and Mix Loop-back (2).
- 20 output channels from computer: Analogue (10), S/PDIF (2) and ADAT (8).
- Fully assignable 18 input by 16 output mixer.

WEIGHT and DIMS

- 3kg - 35cm x 4.5cm x 26.5cm.

ANALOGUE INPUTS

- Mic / Line inputs on XLR Combo with auto-switching between XLR and TRS.
- Mic / Line / Instrument 1 & 2: 2 x XLR Combo on front panel.
- Mic / Line 3-8: 6 x XLR Combo.
- Instrument: As above, switched to Instrument (inputs 1 & 2 only).
- Mic Gain: +10dB to + 55dB.
- Line 1-8 Gain: -10dB to +36dB.
- Instrument Gain: +10dB to +55dB.
- Input Pad on inputs 1-2, -9dB.
- Phantom power switched in 4 channel groups on Mic. 1-4 and 5-8.
- Mic and instrument maximum input level +7dBu (+16dBu with pad on inputs 1 and 2).
- Line maximum input level +22dBu.

ANALOGUE OUTPUTS

- Line level 10 x 1/4 inch TRS Jack.
- Outputs Monitor 1 and 2 have anti-thump protection circuitry.
- Nominal output level 0dBFS = 16dBu, balanced.
- Frequency Response: 20Hz – 20kHz +/- 0.2dB.
- THD+N <0.0010% (-100dB) (measured with 0dBFS input 22Hz/22kHz band pass filter, un-weighted).
- Software switched attenuation (–20dB) on outputs 1 and 2 (for sensitive active monitors).
- Hardware and Software Controlled Digital Volume control for all outputs (assignable through control panel).
- Hardware and Software Controlled Digital Dim and Mute controls for all outputs (assignable through control panel).
- All outputs are useable as monitoring outputs

DIGITAL I/O

- S/PDIF input and output (RCA phono) on rear panel, (24-bit, 44.1 - 96kHz) Output transformer isolated.
- ADAT In / Out 8 channels (44.1 / 48kHz), 4 channels S-MUX (88.2 / 96kHz).
- ADAT Input / Output can be re-configured to be optical S/PDIF input / output via control panel.

MIDI I/O

- 1 in / 1 out on rear panel.

FIREWIRE S400

- 2 ports.

POWER

- Internal Universal Input PSU. 90-250Vac

HEADPHONE MONITORING

- 2 x 1/4 inch TRS Jack on front panel (mirrors outputs 7-8 and 9-10).
- High power headphone drivers.

FRONT PANEL INDICATORS

- Metering of analogue inputs (channels 1-8), 5 segment (-42, -18, -6, -3 and 0dBFS).
- 'Lock' Indicator.
- 'FW Active Indicator.
- MUTE switch and LED.
- DIM switch and LED.
- 48V switches and LEDs.
- Inst switches and LEDs.
- Pad switches and LEDs.
- Power switch and LED.

Troubleshooting

For all troubleshooting queries, please visit the Focusrite Answerbase where there are articles covering numerous troubleshooting examples. www.focusrite.com/answerbase.

E & O.E.