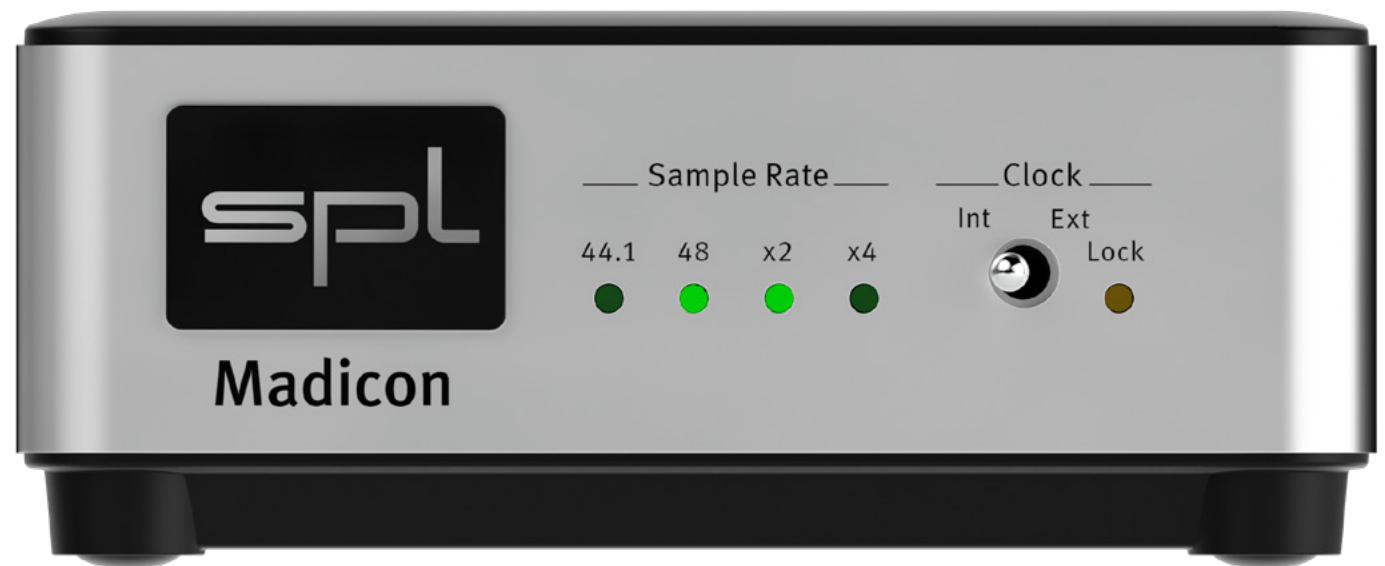


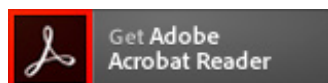
Madicon

MADI to USB Interface



This User Manual is optimized for
Acrobat Reader.

Interactive buttons may not
appear in other applications.



User Manual



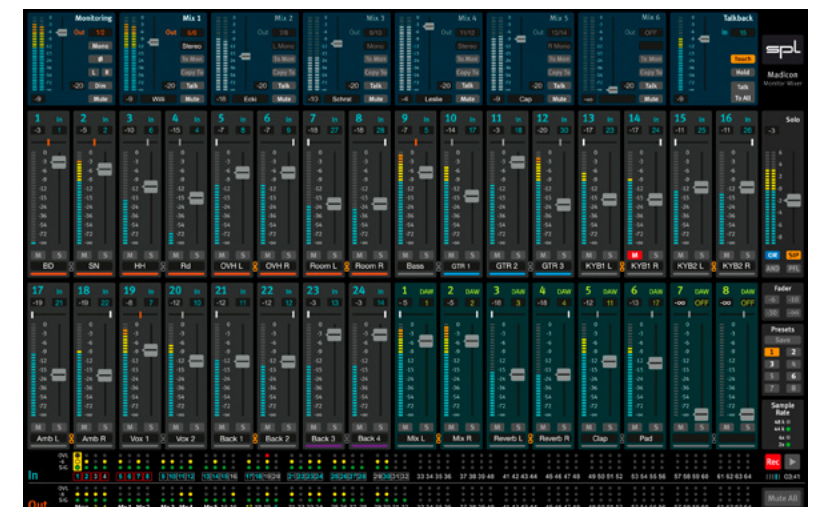
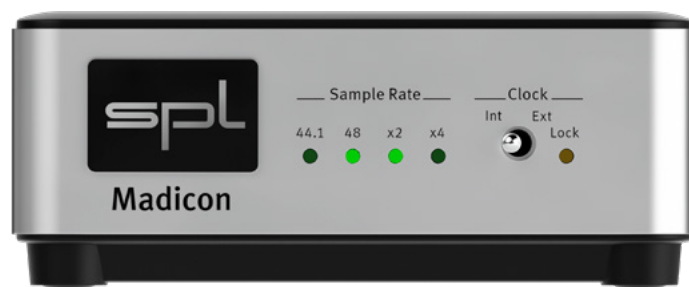
Welcome

and thank you for choosing the Madicon.

The Madicon is a MADI to USB Interface which supports 64 in and 64 output channels, 24 bit resolution and a sample rate of up to 192 kHz.

The exceptional Madicon monitor mixer software provides many game-changing features like ultra low latency monitoring, Talkback, intuitive and fast workflow and recording capability. In combination with the SPL Madison* you will get superb AD/DA conversion with a Mac or PC via USB.

With its built-in optical stereo output, you easily build up a monitor system without having to use a Madison in the control room.



* This manual describes the use of the Madicon in conjunction with SPL Madison. Obviously you can connect any MADI audio interface to the SPL Madicon. For the correct connection and configuration, please consult the documentation which comes with your MADI audio interface (not all features like SmartMADI® may be supported).

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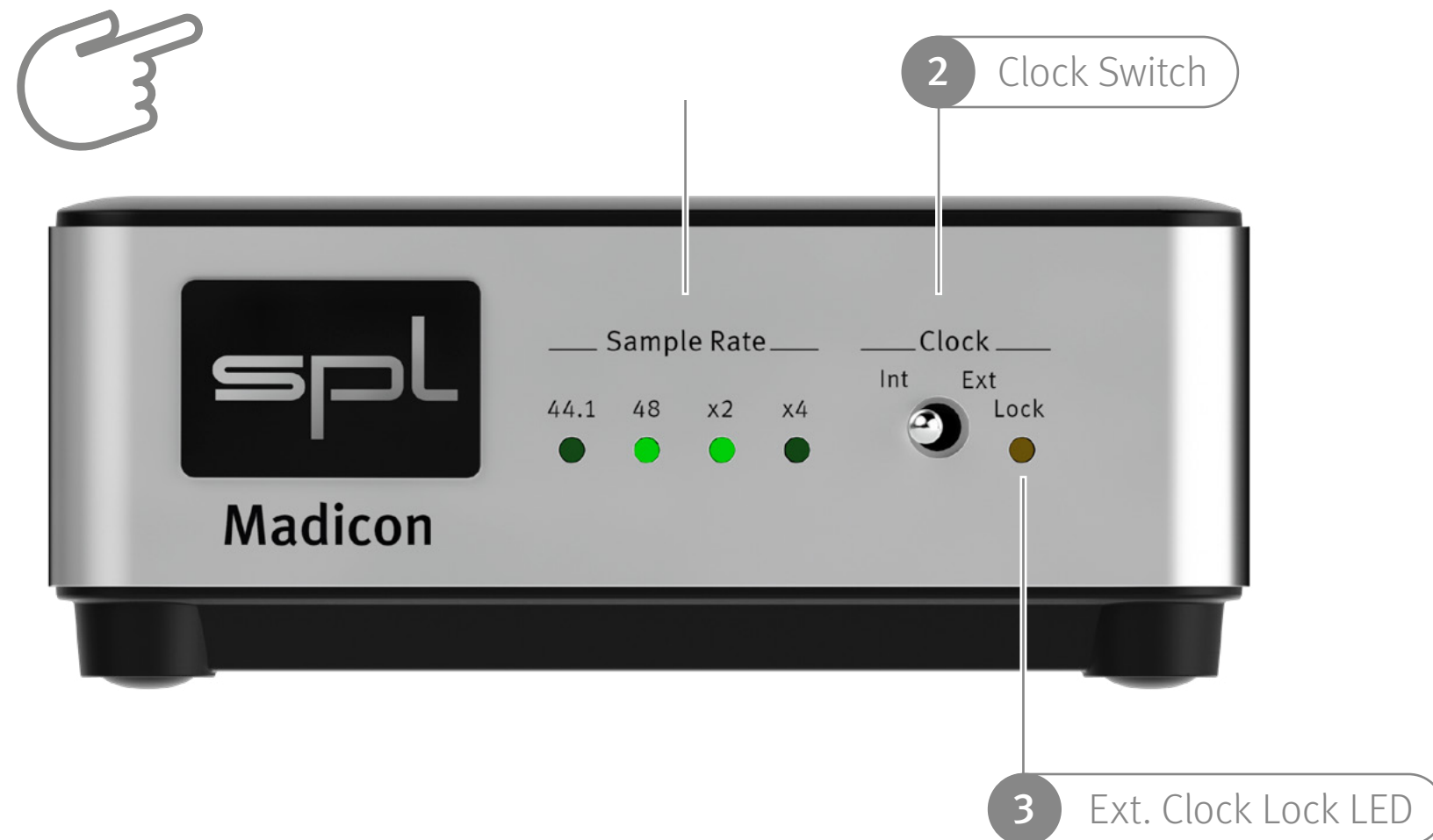
Getting started

Read thoroughly and follow the instructions as well as the security advices of the Quickstart which is enclosed in the scope of delivery! You can also download the Quickstart [here](#).

- | | |
|-----------------|--|
| By pressing the | -Button you get to the table of contents . |
| By pressing the | -Button you get to the front view of the unit. |
| By pressing the | -Button you get to the rear view of the unit. |
| By pressing the | -Button you get to the bottom view of the unit. |
| By pressing the | -Button you get to the Madicon Mixer . |
| By pressing the | -Button you get to the previous content. |

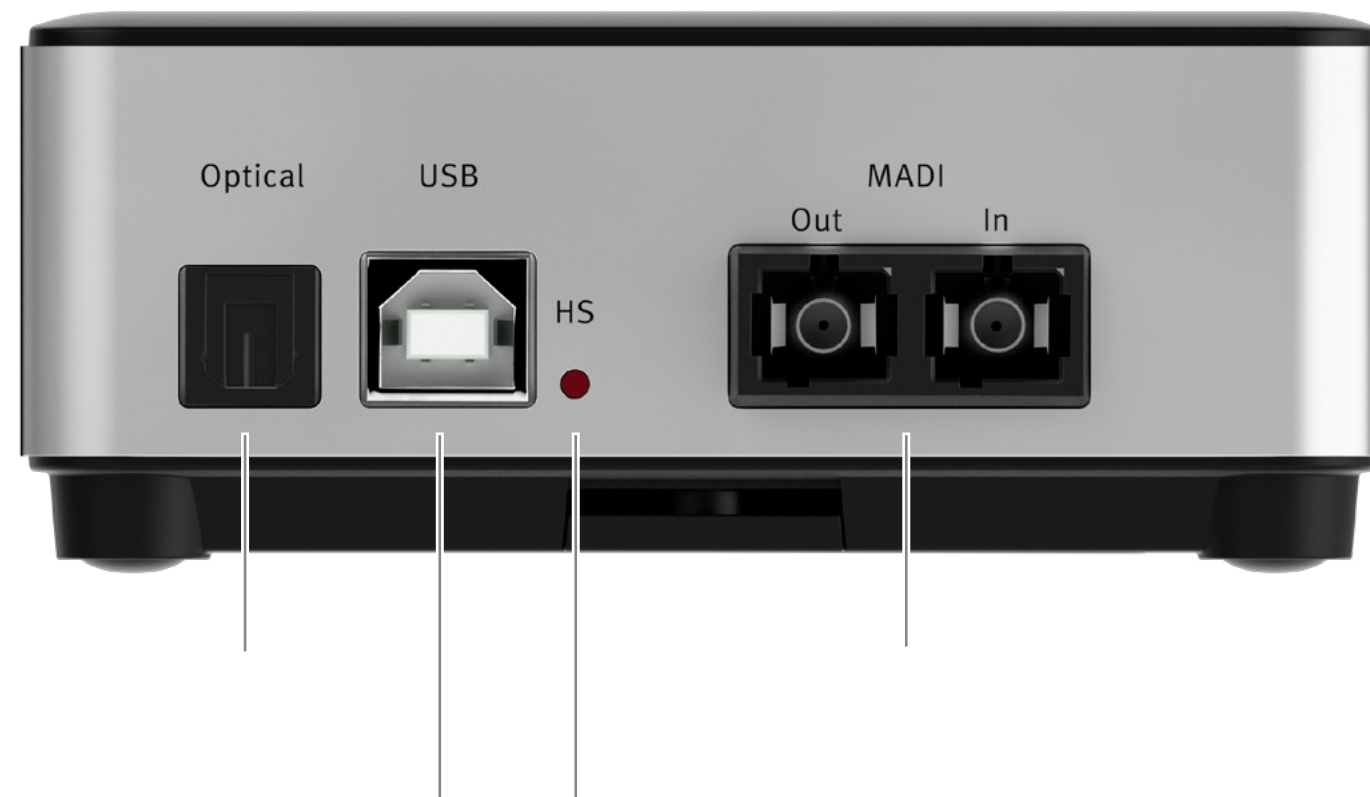
Front view

Front view

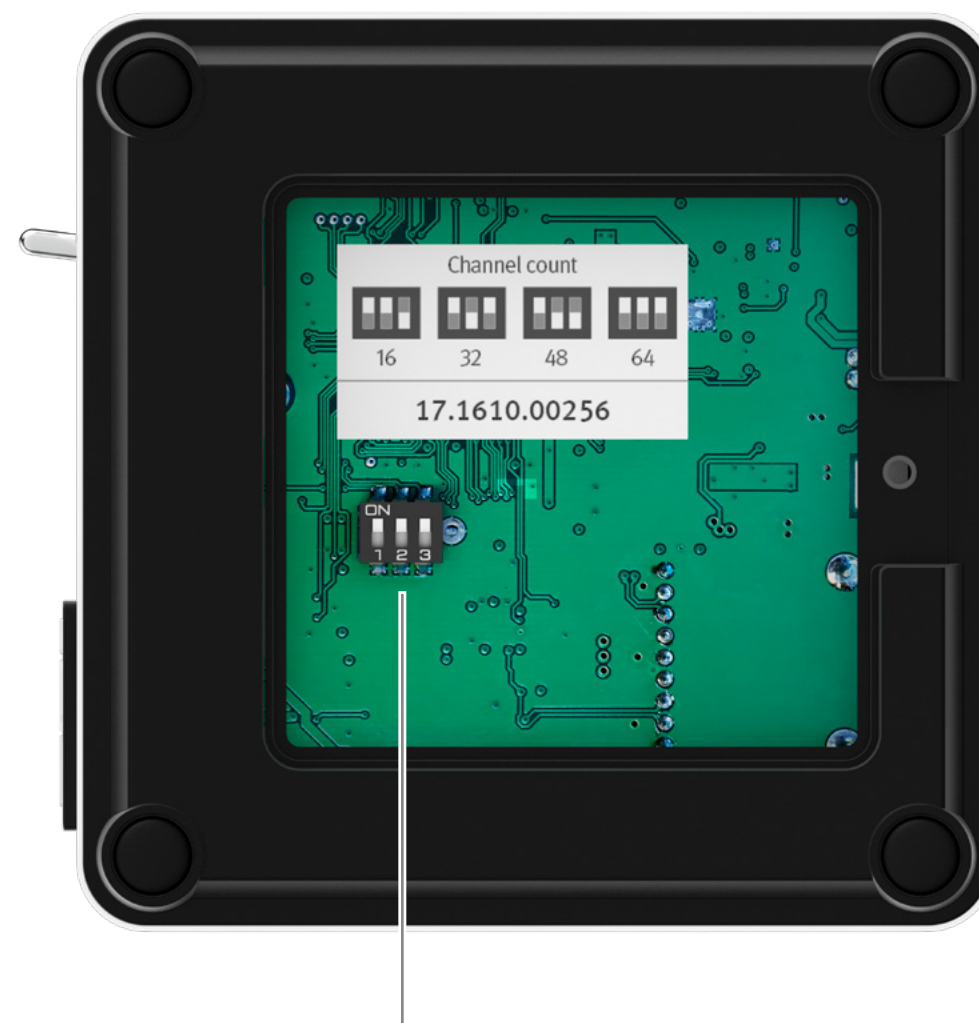
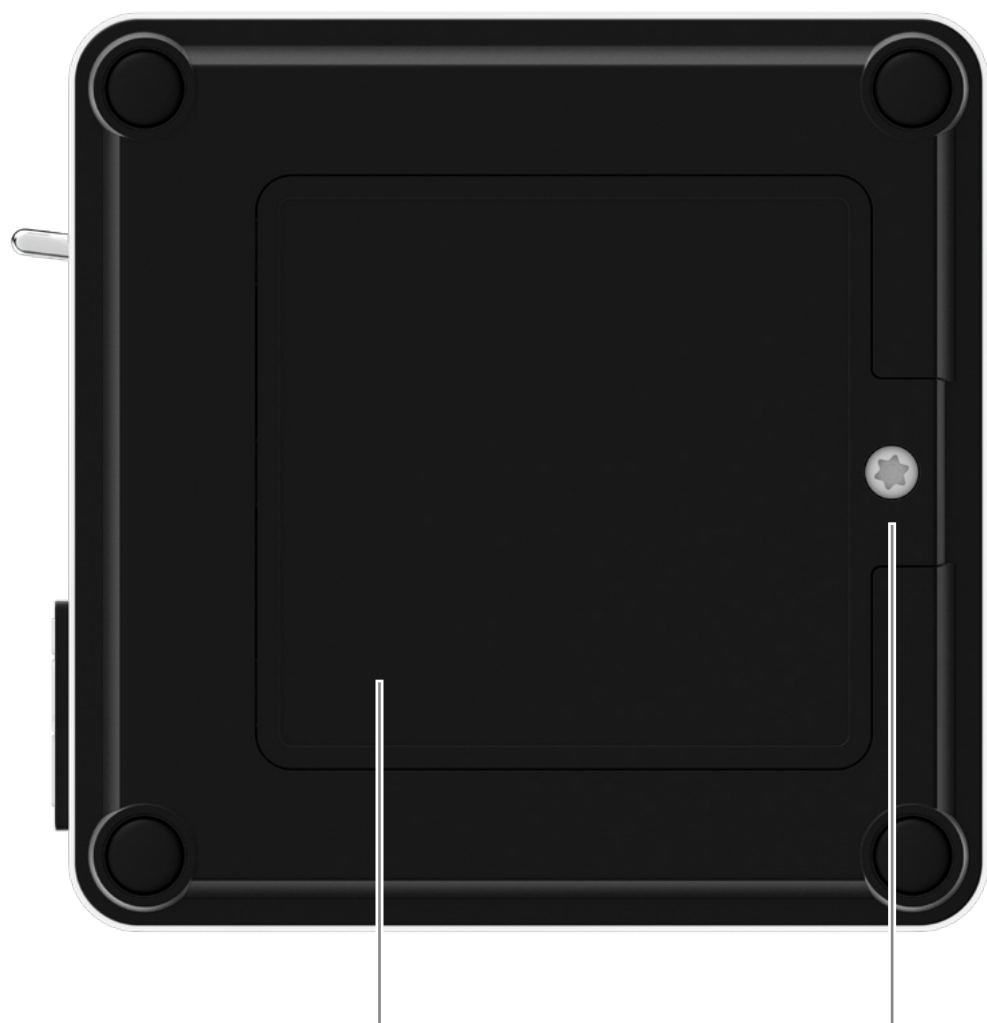


Rear view

Rear view



Bottom view



Madicon Mixer



Basics

Follow the instructions of the Quickstart, which is enclosed in the scope of delivery, to properly install and configure the Madicon and connected SPL Madisons. You can also download the Quickstart under madicon.spl.audio.

This manual serves as a reference. You will find step by step instructions for using the Madicon Mixer software in the Madicon Mixer Video under madicon.spl.audio.

As soon as the Madicon and the connected Madisons are up and running you can start playback and recording with the Madicon.

Madicon channel setup without mixer software

You can configure the Madicon channel setup via the DIP switches on the bottom of the device in case you don't use the Madicon Mixer software. (The Madicon Mixer always overrules the DIP switch setting.)

- Unplug all cables from the Madicon.
- Open the bottom of the Madicon housing (you need a Philips skrew driver).
- Set the DIP switches 2 and 3 to the desired channel count (see "[Bottom view](#)" on page 7).
- Leave the DIP switch 1 on.
- Close the bottom of the Madicon housing and reconnect the cables.

Madicon Mixer


The Madicon Mixer features many outstanding capabilities other mixer applications doesn't provide: intuitive and fast workflow, zero latency monitoring for 7 mixes with 32 channels each, extensive routing and splitting possibilities—even recording directly from within the Madicon Mixer without the need to start a DAW.

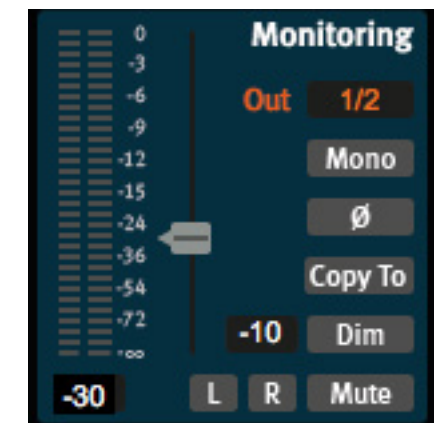
- After the installation and first start of the software, refer to [page 8](#) and make yourself familiar with the individual sections.
- Click anywhere inside the individual mix control section Monitoring or Mix 1-6 to activate a mix. The mixer label turns white and the output channel number turns orange.
- All input and DAW play channels are always shown for the active mix.
- When editing values in text fields like mixer or track names you can go to the next text field by pressing the Tab key.



Monitoring Mixer

The Monitoring Mixer is used to create the mix for the control room.

- 1/2** Select the stereo output channel in the drop down menu. Stereo output channels already used by a Mix 1-6 show up in square brackets and cannot be selected.
-  Move the fader with your mouse to control the volume. Click on the fader while pressing CMD (Mac) or CTRL (Win) to jump to -6dB.
- 30** The fader value is shown below the VU meters in dBfs (full scale).
- Mono** Output is summed to mono.
- Ø** Reverses left channel phase.
- Copy To** Copies the current mix to another or all mixers selected in drop down menu.
- L R** Solo's L or R channel.
- 20 Dim** Diminishes output – values can be selected in the left drop down menu. Dim is automatically engaged while Talk (see ["Talkback" on page 14](#)).
- Mute** Cuts the output.



Mix 1-6

Mix 1-6 are used to create 6 different mixes – most likely headphone mixes for the artists.

3/4

Select the stereo output channel in the drop down menu. Stereo output channels already used by another mixer show up in square brackets and cannot be selected.



Move the fader with your mouse to control the volume. Click on the fader while pressing CMD (Mac) or CTRL (Win) to jump to -6dB.

-30

The fader value is shown below the VU meters in dBfs (full scale).

Stereo

Select the preferred monitoring mode: Stereo / Mono / L Mono / R Mono.

To Mon

Routes the mix to the Monitoring Mixer. The monitoring fader turns orange and monitoring volume is set to -6dB once. If you alter the volume, it is stored for that mix and restored the next time the mix is routed to the Monitor Mixer again.

To Mon

While one mix is routed to the Monitoring Mixer you can activate another Mix 1-6, e.g. to check the mix settings for another artist. The Monitoring Mixer will still play the mix of the formerly routed mix, indicated by the orange border.



- Copy To** Copies the current mix to another or all mixers selected in drop down menu.
- 20 Talk** Mixes the Talkback signal to the mixer output. A dim value can be selected in drop down menu.
- Mute** Cuts the output.
- David** Editable name field for labeling.

Talkback

In this section you make global talkback settings.

27

Select the input channel for the talkback mic in the drop down menu.



Move the fader with your mouse to control the volume. Click on the fader while pressing CMD (Mac) or CTRL (Win) to jump to -6dB.

-30

The fader value is shown below the VU meters in dBfs (full scale).

Touch

Choose the talk mode: Touch – Talk is engaged as long as a Talk button is pressed.

Hold

Choose the talk mode: Hold – Talk stays engaged until the Talk button is pressed again.

Talk

To All

If active, talk signal goes to all Mix 1-6.

Once activated Mixers can be deselected to create a Talk group.



Input and DAW Play Channels

2

Select the input channel in the drop down menu.

Inputs already used by other input channels for the active Mixer show up in square brackets and cannot be selected again.

15

Select the DAW Play channel in the drop down menu.

DAW Plays already used by other DAW Play channels for the active Mixer show up in square brackets and cannot be selected again.

-17

The fader value is shown above the pan handle.

The pan value is displayed when the mouse holds the pan handle.



Move the pan handle with your mouse to control the pan. Click on the pan handle while pressing CMD (Mac) or CTRL (Win) to set to center.



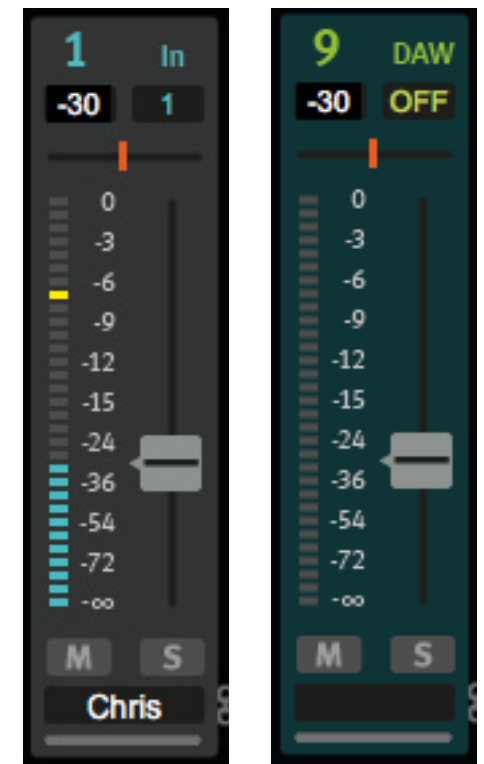
The pan handle is orange when set to center.




The pan handle is white if panned fully left or right (L90 and R90).



The pan handle is gray for all other values.




 Move the fader with your mouse to control the volume. Click on the fader while pressing CMD (Mac) or CTRL (Win) to jump to -6dB.

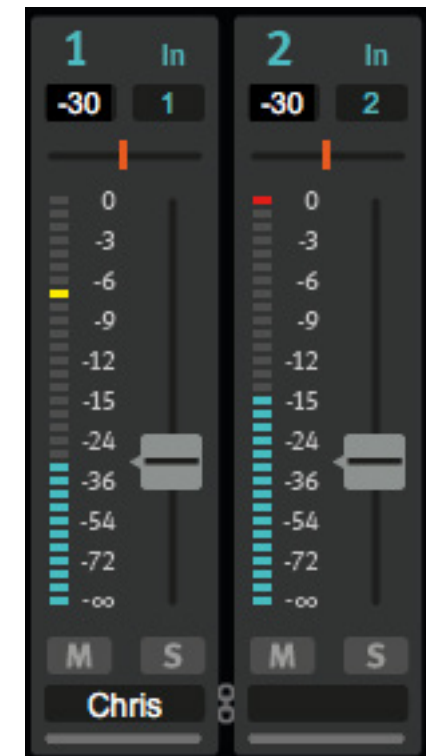
 With the Mute button a channel can be muted within the active mixer.

 With the Solo button an individual track can exclusively be monitored in the active mixer.

 Chris Editable name field for labeling.


 Click on the chain icon to activate stereo linking of two adjacent channels. The settings of the left channel are copied to the right channel. The pan handles are set to L90 and R90. By changing a setting of one channel (volume, mute and solo mode), the other is adjusted accordingly. To move one fader separate from the other, press and hold OPT (Mac) or ALT (Win) while moving the fader with the mouse. Clicking on the chain icon again deactivates the stereo linking.

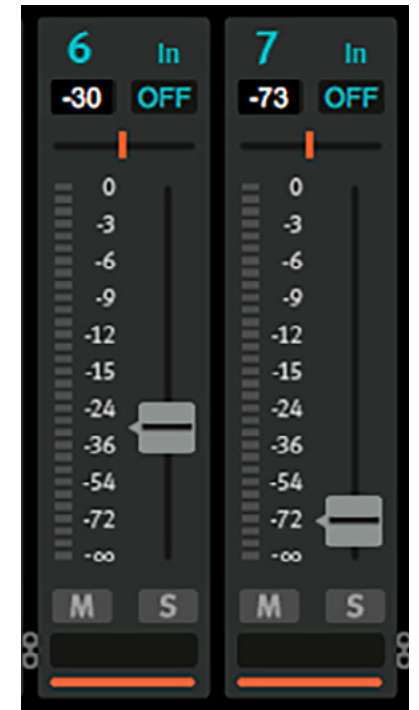
The VU meters always show the input level (pre fader) with a peak hold LED. To erase the peak hold in a channel click on the VU meter while holding CMD (Mac) or CTRL (Win). To erase ALL peak hold values click on any VU meter while holding OPT (Mac) or ALT (Win).



Channel Groups

Channels can be grouped. By moving one fader, all faders within that group are moved together while their relative levels are maintained. When activating mute/solo of one channel, mute/solo* of all channels in that group is activated. To make changes only to one channel within a group, press and hold OPT (Mac) or ALT (Win) while changing volume or activate mute or solo.

 Channels within the same group have its group bar colored in the same color (orange, blue, cyan, etc.).



Creating Groups

To create a new group, click on the group bar of the first channel, press and hold CMD (Mac) or CTRL (Win) and click on the group bar of any channel you wish to add to the group.

Adjacent channels can be grouped by clicking on the group bar of one channel and pressing SHIFT while clicking on the group bar of last channel of the group.

* Only if Solo mode is set to AND.

Adding channels to groups

To add any channel to an existing group, first click on the group bar of one channel already in that group, then click on the group bars of the channels you wish to add to that group while pressing the CMD (Mac) or CTRL (Win) key.

To add adjacent channels to an existing group, first click on the group bar of one channel already in that group, then click on the group bar of the last channel you wish to add to that group while pressing the SHIFT key.

Ungroup

To ungroup all channels within a group, click on the group bar of any channel inside the group while pressing OPT (Mac) or ALT (Win) and SHIFT.

To ungroup, click on the group bar while pressing OPT (Mac) or ALT (Win).

Solo Settings

In the Solo section you make global settings for the solo function.



The fader sets the solo level between -9 dB to +6 dB.

SIP

Solo signal is played back in pan position (Solo In Place).

PFL

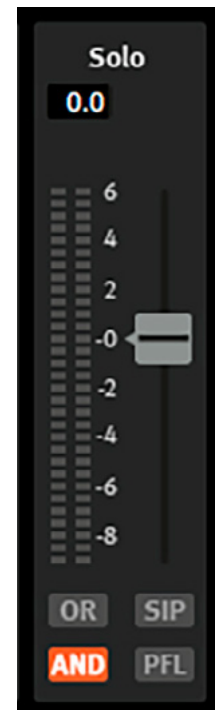
Uses level before fader (Pre Fader Listening).

OR

Only a single channel is soloed.

AND

More than one channel can be soloed (additive).



Global Fader Setting

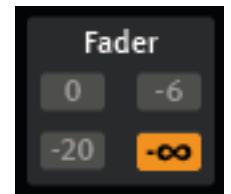
Clicking on a preset value, all faders are set to this value.

-6 All faders are set to -6 dB.

-10 All faders are set to -10 dB.

-30 All faders are set to -30 dB.

$-\infty$ All faders are set to $-\infty$ dB.



Presets

In the Presets section you can save and recall the complete mixer, including all input and DAW play channels, the Monitoring Mix, Mix 1-6, Talkback, Solo, Fader Presets and Routing settings.

Save

To save a preset, click on the Save button. A drop down menu appears where you can select the preset number. A preset already used will be overwritten without warning. If an active preset is modified, the Save button blinks slowly.

1

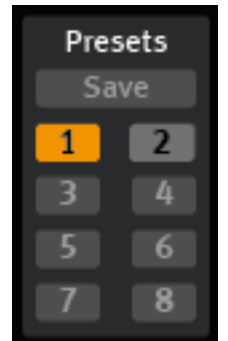
An orange preset button indicates an active preset.

2

A light grey preset button indicates a saved but inactive preset. Click on a saved preset button to activate the preset and recall all settings from that preset.

3

A dark grey preset button indicates an unused preset.



Mute All

This is a safety feature.

Mute All

Click to cut all outputs. Alternatively press the ESC key.

Mute All

Click again to unmute all outputs.

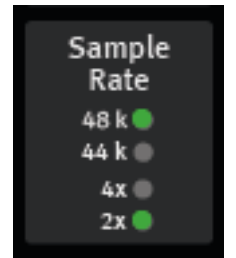


Sample Rate Display

The projects sample rate is displayed here.

Depending on your connected audio device, the sample rate can be edited on the audio device or in the audio software (DAW) on your computer.

The sample rate display is identical to the Madicon LEDs.



Recording

With the recording function you can easily record all input channels to your computer without the need to start and configure a DAW.

Arm

Click on Arm. The Recording Session Name/Destination window pops up.

Choose the destination folder on your computer and give the session a name.

Activate “Arm inputs automatically” to arm all inputs which have an input signal higher than -30dB (SIG-LED).

Click OK.

Armed inputs have red squares and unarmed inputs have grey squares. Click on an input number to arm or disarm.

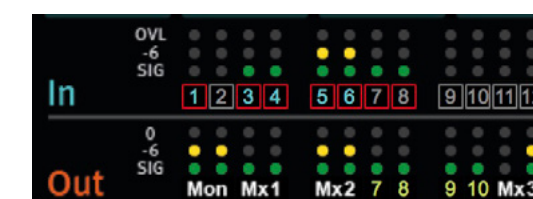
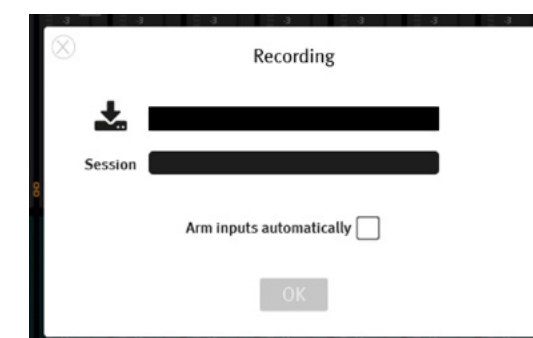
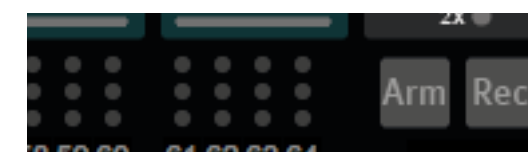
The available recording time is displayed in HH:MM.

Rec

Click on the Rec button to start recording.

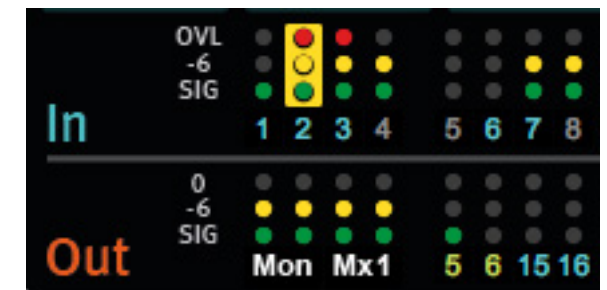
Rec

To stop recording click Rec again. Starting Rec again will automatically create and enumerate a new folder.



MADI Stream Routing, Signaling and Monitoring

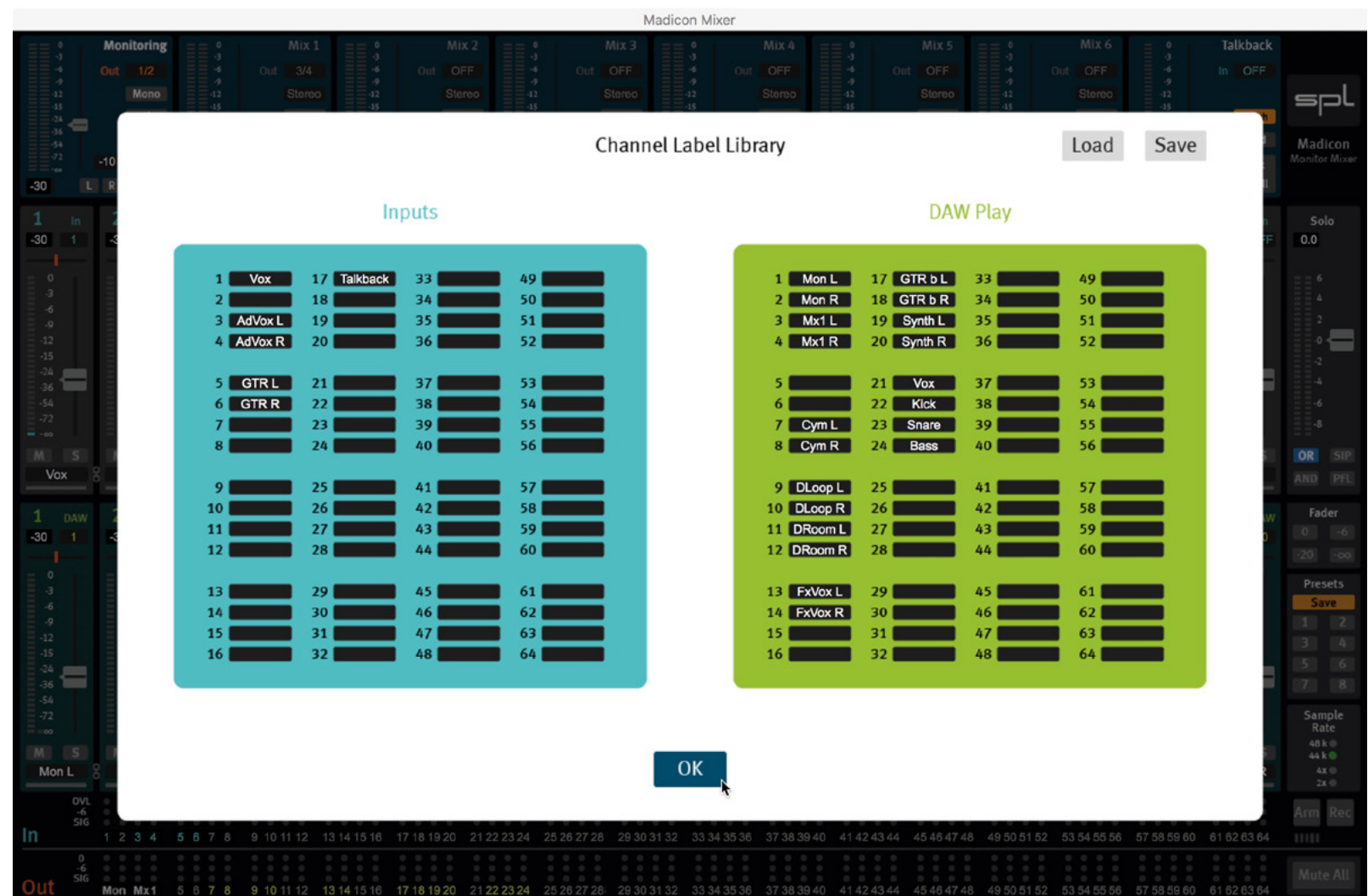
- All 64 in- & output channel levels are displayed as traffic lights.
- SIG illuminates at -30dBfs (full scale).
- Available number of channels depend on the project sample rate according to the MADI standard: 44.1/48 kHz – max. 64 channels, 88.2/96 kHz – max. 32 channels, 176.4/192 kHz – max. 16 channels.
- Each input can be soloed by clicking on its traffic light. The input gets a yellow frame and is routed to the active mixer.
- Blue numbers in the inputs indicate that this input is used in the active mixer.
- The mixer names overwrite the outputs numbers with white text.
- Green numbers indicate that this DAW play channel is used in the active mixer.
- Blue numbers in the outputs indicate that this input is SPLIT to the respective output.



Channel Label Library

Use this feature to save, load and edit all channel labels.

- Open the Channel Label Library from the Madicon Mixer menu or type c.
- A pop-up screen appears in which you can type in all labels.
- Labels entered in a Mixer will automatically be added to the library.
- You can save and load as many Channel Labels pages as you like.



Specifications

MADI

Optical MADI port. Standard 64/High.

Optical

Toslink. Max 192kHz.

USB Port

USB 2.0 High Speed, Bus-Powered.

Power consumption: max. 2.5 Watt

Although the Madicon is a USB 2 device, in some cases older computers do not recognize the Madicon correctly.

Older USB ports and its drivers (e.g. Core Audio) do not fully support the high speed and midi communication which are mandatory for a reliable 64 channel mixing and recording.

For the best performance connect the Madicon direct to an USB 3 Port of your computer.

Do not use an USB hub.

Dimensions (incl. feet)

- (WxHxD) 3.94 x 1.65 x 4.25 in (100 x 42 x 108 mm)

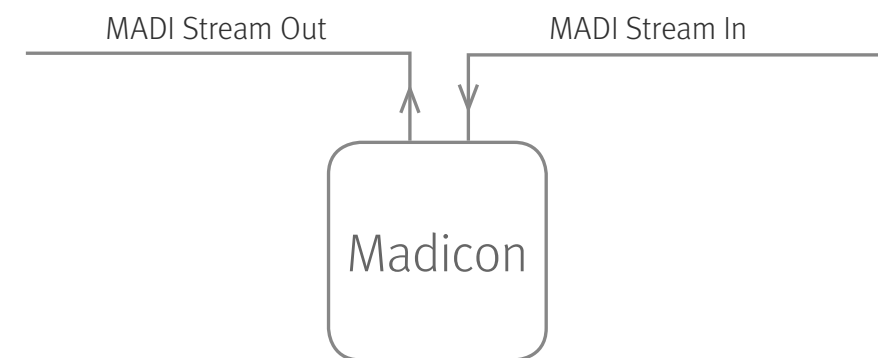
Weight

- 0.44 lbs (0.2 kg), unit only
- 1 lbs (0.45 kg), shipping

Latency

MADI Stream Latency:

In:	1-2 samples
Out:	1-2 samples
Madicon Monitor Mixer (FPGA):	<u>1 sample</u>
	3-5 samples



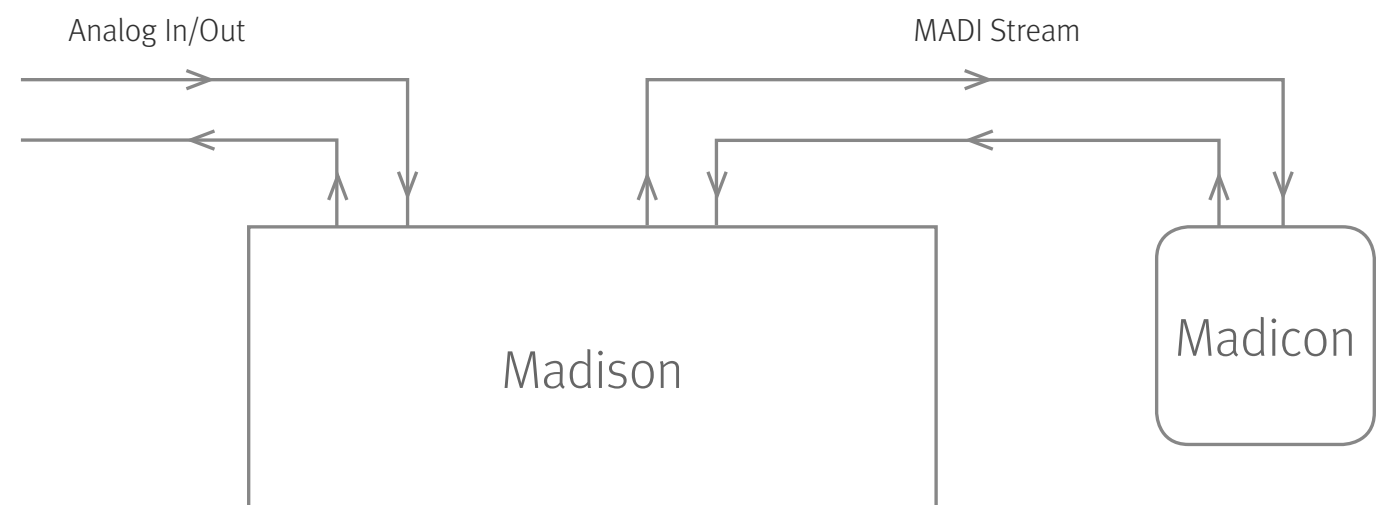
Madicon/Madison AD/DA Roundtrip Latency

< 100 samples

48kHz = 2ms

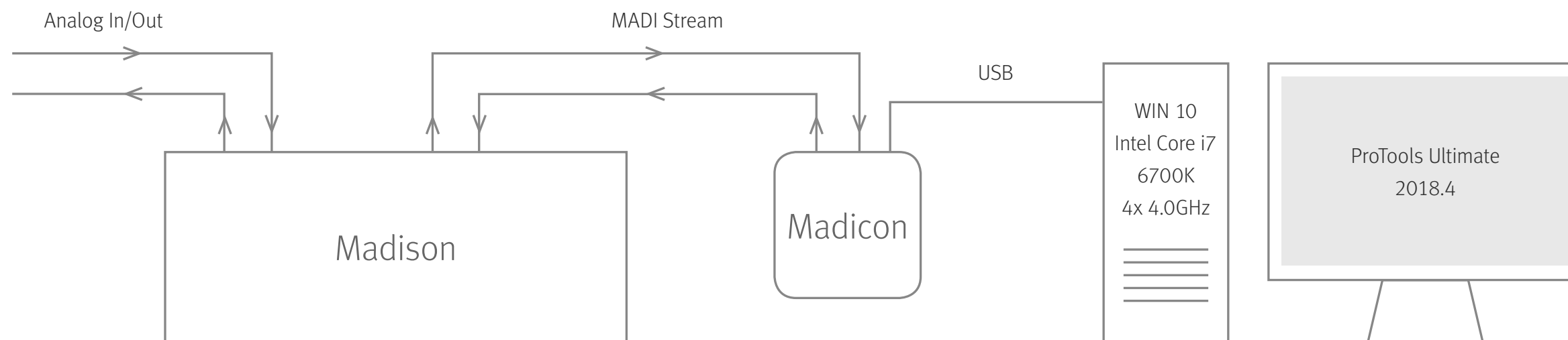
96kHz = 1ms

192kHz = 0.5ms



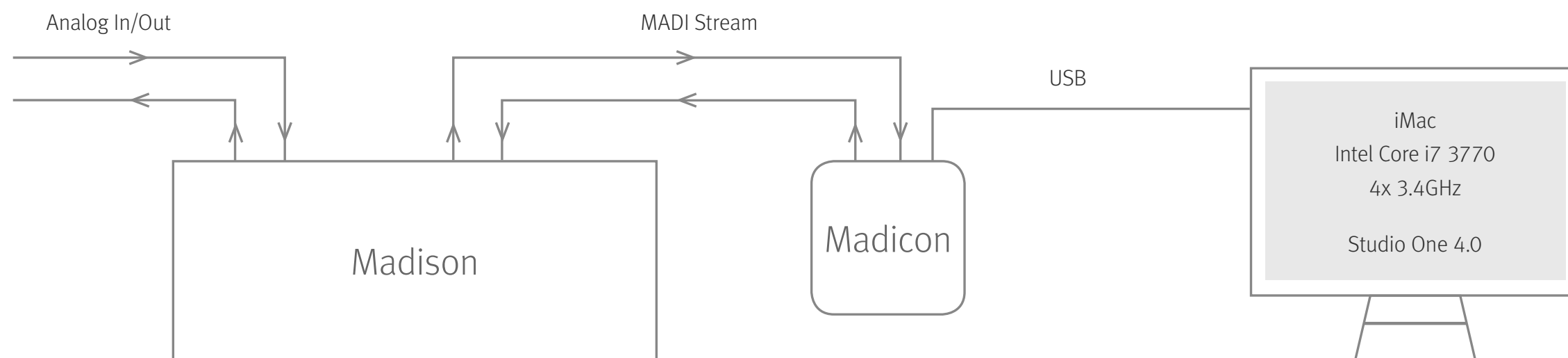
WIN PC Roundtrip Latency

192kHz < 5ms (128 samples)



iMac Roundtrip Lantency

192kHz < 6ms (128 samples)



Important Notes

Version 1.1 – 06 /2018

Developer: Hermann Gier / Eric Baeck / Thomas Rehaag

This manual includes a description of the product but no guarantee as for specific characteristics or successful results. Unless stated otherwise, everything herein corresponds to the technical status at the time of delivery of the product by SPL electronics GmbH. The design and circuitry are under continuous development and improvement. Technical specifications are subject to change.

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Declaration of CE Conformity



The construction of this unit is in compliance with the standards and regulations of the European Community.