Fireface UC Setup for Mac

Always use the approved driver from the SoundCheck DVD or from our website:
https://support.listeninc.com/hc/en-us/sections/200370694-Drivers

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Note: Driver testing and the stated Hardware Editor settings were performed using macOS® Catalina 10.15. Different versions of the macOS® may require different Hardware Editor Latency Values than those specified in ***Latency on page 5***. Follow the instructions in ***Latency Changes on page 5*** to determine the proper latency values for the Hardware Editor.

System Extension Blocked error message after installing audio interface driver

Starting in macOS® 10.13 'High Sierra', Apple introduced a system that will automatically prevent users from installing software that wasn't downloaded from the App Store. You will need to manually allow for this from the **System Preferences** menu. Once selected, all other software by the same developer will be allowed to pass automatically without having to repeat the steps.

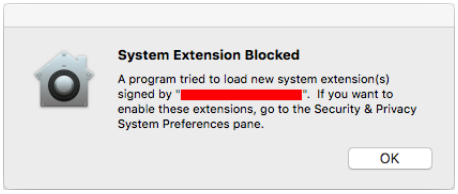

Figure 1-1: Blocked Kernel Extension

You may see the error message in ***Figure 1-1*** after installing an audio interface driver and restarting the computer. This will most likely prevent the audio interface from working correctly.

To fix the problem, as the error message suggests, click on:

Apple Logo > System Preferences > then click 'Security and Privacy'.

Click the '**Allow**' button as shown in ***Figure 1-2***.

In our own test installations we have noticed the button does not always appear. In this case, you may need to reinstall the audio interface driver again and navigate to the **Allow** button as noted above.

Note: If the "**Allow**" button is NOT pressed within 30 minutes after the driver installation, this button will disappear and you will need to install the driver again for the button to appear. You may have to click the lock icon as well.

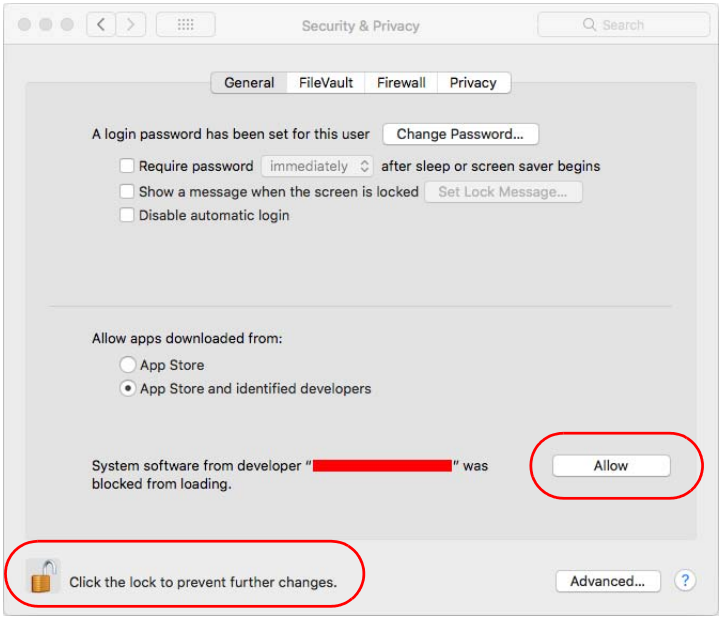

Figure 1-2: User Approval To Load A KEXT

Once this is complete, continue with the setup of the new hardware.

Make sure the Fireface UC is set to Mac Mode:
Disconnect the **Fireface UC** from your computer and double click the rotary encoder button. Check the display for the correct firmware: AP = Mac and PC = Windows.

Figure 1-3: Mac Mode

Mixer

The TotalMix application for the UC should be configured as shown ***Figure 1-4***. A preset for this has been saved with the driver package supplied by Listen, Inc.

From the mixer screen click "File" then click "Load Workspace". Navigate to the "SoundCheck Settings" folder in the driver folder for the audio interface. Open "FF UC Core Audio Mixer tmws".

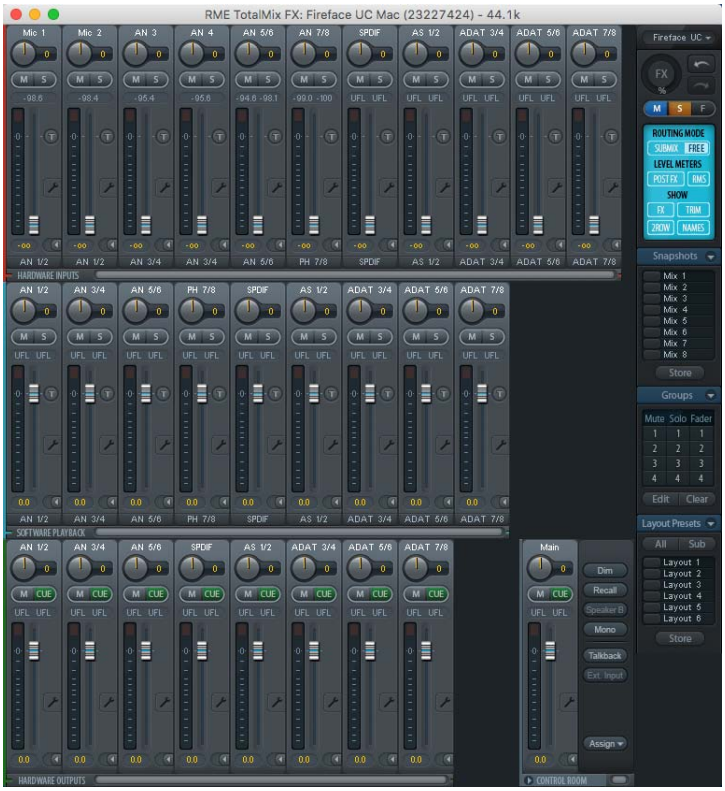

Figure 1-4: Mixer Screen

The mixer is then set to:

- Hardware Inputs: All channels used in SoundCheck must be turned down
- Hardware Outputs: All channels used in SoundCheck set to 0 dB - Unity Gain
- Software Playback: All channels used in SoundCheck set to 0 dB - Unity Gain

You must click on a Hardware Output in order to set the Software Playback for that channel. In ***Figure 1-4***, the arrow shows PH 7/8 selected and set to 0dB in Hardware Outputs. The Software Playback is also set to 0dB for that channel.

- Control Room channel is used for the Headphone output level and set to 0 dB
- Routing set to "Free"
- Gain range should be set as shown on the Fireface USB Settings panel, ***Figure 1-6.***

Matrix

The Matrix allows for routing of software playback channels to the necessary output channels to create a one to one relationship.

The Matrix page of the mixer is set as shown in ***Figure 1-5***. This is also included in the workspace file:
"FF UC Core Audio Mixer tmws".

- Software Playback channels (vertical) are routed to Hardware outputs (horizontal). (Green cells set to 0dB.)

Figure 1-5: Matrix Screen

USB Settings

The **Line In**, **Line Out** and **Phones** levels should be set to +4 dBu in the USB Settings panel in order to work with the default Vp values in the Hardware Editor (shown below). The default settings can vary across driver versions. Please check USB settings as shown in ***Figure 1-6***.

- By default the Phones level is -10dBv and must be changed to +4 dBu
- The Sample Rate must be updated in the USB panel when changed in the SoundCheck Hardware Editor
- Restart SoundCheck after setting the sample rate in the **Hardware Editor** and the **Sample Rate Field** of the audio interface app
- Clock Source should be set to Internal when the **Fireface UC** is used as the only audio interface
- Optical format can be switched to SPDIF

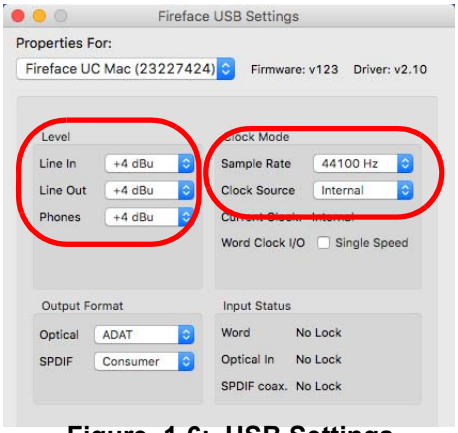

Figure 1-6: USB Settings

SoundCheck Hardware Editor

The Hardware Editor in ***Figure 1-7*** shows the general settings for the Input and Output Vp values as well as the Latency.

- Vp values and Latency have changed with the latest driver
- Note that the default Calibration Configuration (.CAL) file in SoundCheck has only 2 signal paths of direct input and output. New signal paths will need to be created in Calibration if you plan to use the additional hardware channels.
- **Sampling Rate:** Only one rate can be selected for all Input and Output channels of an interface

Interfaces sold by Listen include a data sheet with more precise Vp values that you can enter in the Hardware Editor.

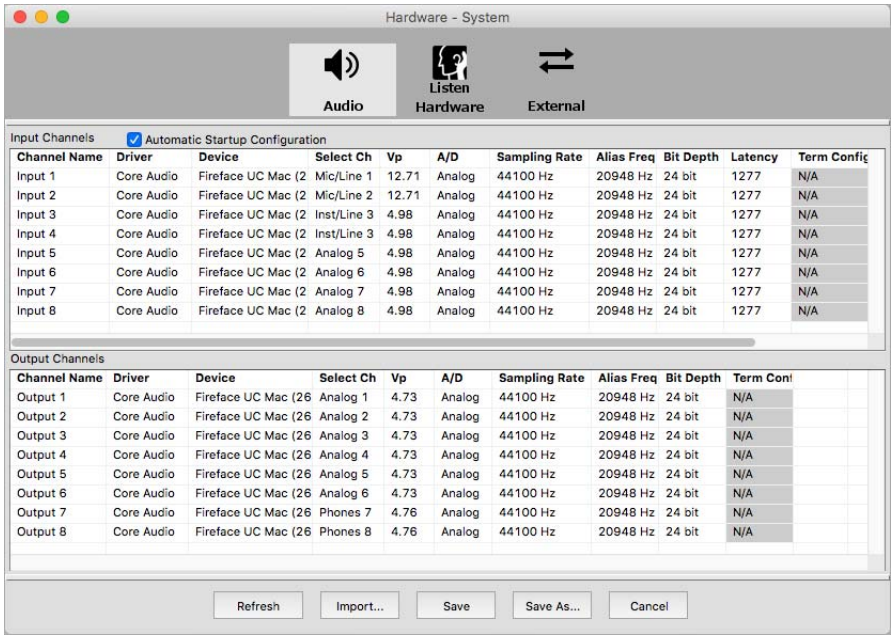

Figure 1-7: Hardware Editor

Latency

Note: The Fireface UC has two different device revisions. Units with serial number 23682169 and earlier will have a default latency of **1234**. Units with serial number 23682170 and after will have a default latency of **1265**. Vp values are also different. HAR files for both hardware versions are available in SoundCheck 16.01 and later. If you need to verify the Latency value, run the Self Test sequence as noted in ***Latency Changes on page 5***.

Latency in Samples for Typical Sample Rate and Buffer Values				
USB Connection	**44.1 kHz**	**48 kHz**	**96 kHz**	**192 kHz**
Samples (SN ≥23682170)	1265	1382	2792	5619
Samples (SN ≤23682169)	1234	1351	2761	5590
Enter the **Samples** value in the Hardware Editor Latency field for the selected Sample Rate.				

Figure 1-8: Latency in Samples

Latency Changes

1. Open the Hardware Editor. Change the Sample Rate to the value you need to measure Latency for. Click on the drop down arrow next to the value in the **Latency** field of the Hardware Editor. Select **Edit** and the Latency Table will open.
2. Set the **Latency** for the desired sample rate to 0 (zero) and click OK
3. Make sure the sample rate of the audio interface has updated.
4. Run the **Self Test** sequence from the Calibration folder in SoundCheck. The Result window shows the **Audio Interface Latency** for the new Sample Rate.
5. Enter this value in the Latency field of the Hardware Editor Sample Rate/ Latency Table. Repeat this for other required Sample Rates.
6. All channels, analog or digital, must have the same latency value per sample rate for that audio interface. This insures the system will work correctly if they are used simultaneously in a sequence.
7. Run the Self Test sequence again to verify that the Audio Interface Latency is 0 (zero)

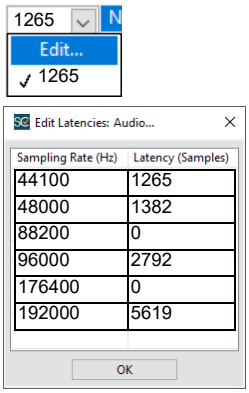

Figure 1-9: Edit Latency Table