

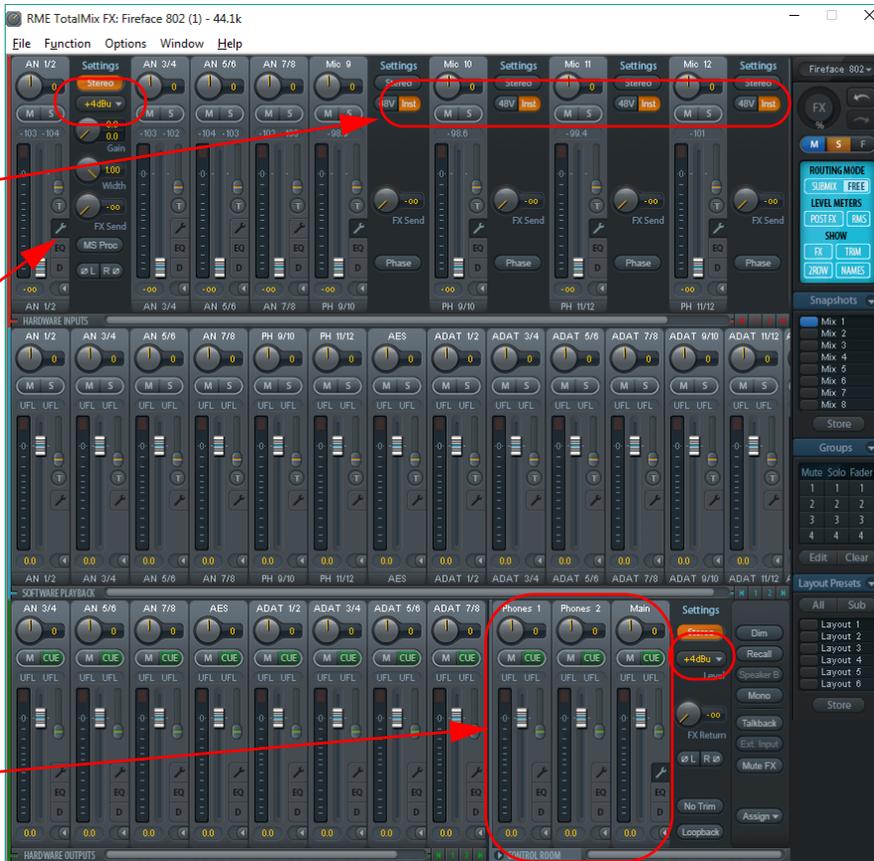
## Fireface 802 Setup in Windows

Always use the approved driver from the SoundCheck DVD or from our website:

<https://support.listeninc.com/hc/en-us/sections/200370694-Drivers>

### Mixer

Open the TotalMix app from the tray (If not in tray search Windows for TotalMixFX.exe).

Set Channels 9 thru 12 to "Inst" to match Line In Vp settings in Hardware Editor

Use Wrench symbol to open channels. Set Line inputs to +4dBu

Main Output (AN 1/2) & Phones 1/2 must be set to 0dB

Figure 1-1: Mixer Screen

- All Input channels must be set to +4dBu. This is not the default setting! Click the "Wrench" symbol on each channel and click the drop down menu to select +4dBu as shown in [Figure 1-1](#).
- For single ended use of Ch 9 thru 12, select INST to match Line In Vp shown in [Figure 1-4](#).
- Main Output is also known as AN 1/2. This must be set to 0dB as shown in [Figure 1-1](#).

The TotalMix application for the **Fireface 802** should be configured as shown [Figure 1-1](#). A preset for this has been saved with the example sequence. From the mixer screen click "File" then click "Open". Navigate to the Multichannel Self Test Package folder, open the folder for the audio interface and open "SoundCheck Config FF802.tmws".

The mixer is set to:

- Hardware Inputs: All channels used in SoundCheck must be turned down. Gain should be +4dBu.
- Hardware Outputs: All channels used in SoundCheck set to 0 dB. Gain should be +4dBu.
- Software Playback: All channels used in SoundCheck set to 0 dB - Unity Gain

## Headphone Outputs



Figure 1-2: Headphones Volume

- Set front panel Headphone Volume controls to Max. This is required to match the Vp values in the SoundCheck Hardware Editor.

## 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 should be set as shown in [Figure 1-3](#). This is also included in the workspace file:

**"SoundCheck Config FF802.tmws"**.

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

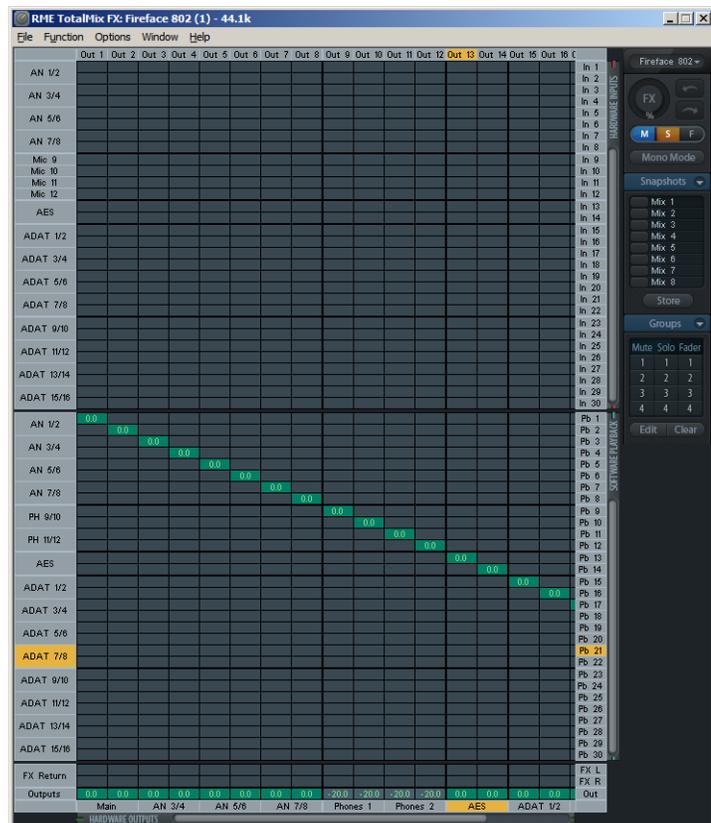


Figure 1-3: Matrix Screen

**Important!** Do not use different input and output driver types for an audio interface, e.g.: ASIO for Inputs and WASAPI for outputs. Doing so will result in an Acquisition Step error.

## ASIO Buffer

The ASIO buffer is set in the ASIO Control Panel which is launched separately from the Mixer Utility. The ASIO control panel can be opened by right clicking on a **Fireface 802** Channel Name in the SoundCheck Hardware Editor - Audio Tab.

- The ASIO buffer value will automatically update according to the selected Sample Rate
- The default buffer size of the **Fireface 802** driver at 44.1 kHz and corresponding Hardware Editor Latency is shown in [Figure 1-5](#) and [Figure 1-6](#)
- More channels of measurement may require a buffer value change
- The sample rate of the **Fireface 802** automatically updates to the rate set in the SoundCheck Hardware Editor ([Figure 1-4](#)) and the **Fireface 802** mixer updates when the sequence runs
- The ASIO buffer value will automatically update according to the selected Sample Rate.

This could cause performance problems with SoundCheck. If SoundCheck performance decreases, change the ASIO Buffer to a lower value. Follow the steps in [Latency Changes on page 4](#) to get the new Latency Value for the Hardware Editor fields.

## SoundCheck Hardware Editor

The Hardware Editor in [Figure 1-4](#) shows the general settings for the Input and Output Vp values. Refer to [ASIO Buffer on page 3](#), [Figure 1-5](#) and [Figure 1-6](#) for information on proper Latency values.

- 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.

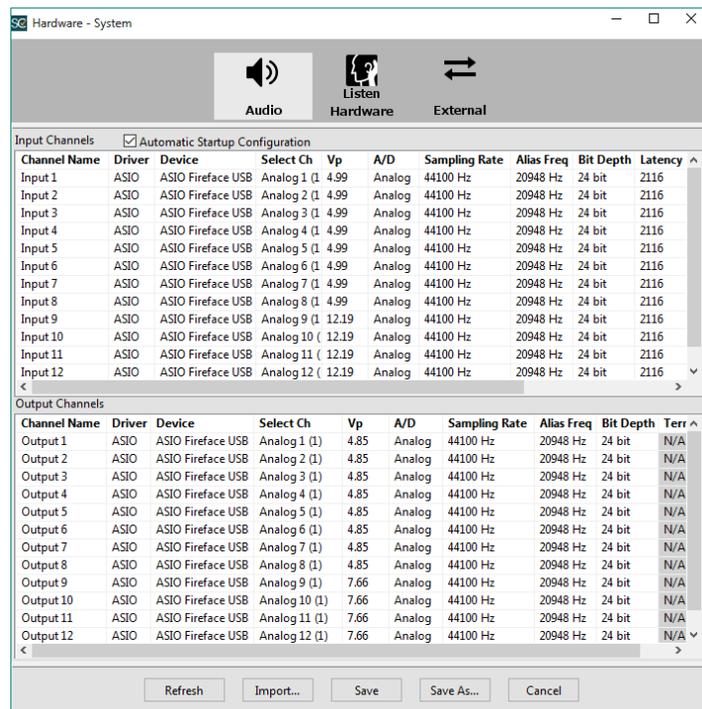


Figure 1-4: Hardware Editor

- In [Figure 1-4](#), Input 9 - 12 Vp values are for **Inst**, 1/4" TS single ended inputs, with gain set at +6 dB. Any changes to the gain setting will require updated Vp values.
- If you are using **Mic**, XLR balanced inputs, with gain set at +6dB, the nominal Vp value should be 3.36 Vp. Any changes to the gain setting will require updated Vp values. Deselect **Inst** in the mixer when using the XLR inputs. See [Figure 1-1 Mixer Screen on page 1](#). Turn on 48 V Phantom Power only if the connected microphone requires phantom power.
- The Headphone outputs are set to -20 dB by default. Loading the "**SoundCheck Config FF802.tmws**" file included with the approved driver sets the headphone levels to 0 dB. This works with the Vp values of the headphone channels in the Hardware Editor.

## USB vs Firewire

The Latency in the SoundCheck Hardware Editor is different for USB connection vs Firewire.

Latency in Samples for Typical Sample Rate and Buffer Values				
Firewire Connection	44.1 kHz	48 kHz	96 kHz	192 kHz
ASIO	1024	1024	2048	4096
Samples	2116	2116	4203	8378

Enter the **Samples** value in the Hardware Editor Latency field for the selected Sample Rate.

**Figure 1-5: Latency in Samples - USB**

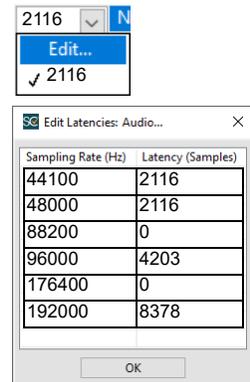
Latency in Samples for Typical Sample Rate and Buffer Values				
Firewire Connection	44.1 kHz	48 kHz	96 kHz	192 kHz
ASIO	256	256	512	1024
Samples	610	610	1184	2336

Enter the **Samples** value in the Hardware Editor Latency field for the selected Sample Rate.

**Figure 1-6: Latency in Samples - Firewire**

## 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. Change the ASIO Buffer/USB Streaming mode for the audio interface in the **ASIO Control Panel** (if applicable). Typically there is no buffer control for WDM / WASAPI.
4. Run the **Self Test** sequence from the Calibration folder in SoundCheck. The Result window shows the **Audio Interface Latency** for the new Buffer size or 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 1-7: Edit Latency Table**