

Fireface UCX Setup for 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



Figure 1-1: Mixer Screen

The TotalMix application for the **Fireface UCX** 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 “**Load Workspace**”.

Navigate to the Multichannel Self Test Package folder, open the folder for the audio interface and open “**SoundCheck Config FF UCX USB.tmws**” or “**SoundCheck Config FF UCX FW.tmws**”. The first is for USB connection, the other is for FireWire connection. (Note: Driver changes may allow for a single file to be used for both USB and FireWire: “**SoundCheck Config FF UCX.tmws**”)

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.

- Control Room channel is used for the Headphone output level. **Set to 0 dB.**

Routing set to “Submix” Gain range should be set as shown on page 2 on the Gain Range Tab of the USB Settings panel

Mixer Gain

Gain Tab

Line In/Out gain is set to +4dBu by default.

This is set in the UCX mixer by clicking the Wrench symbol and editing the Gain field.



Figure 1-2: Mixer Tab

Matrix

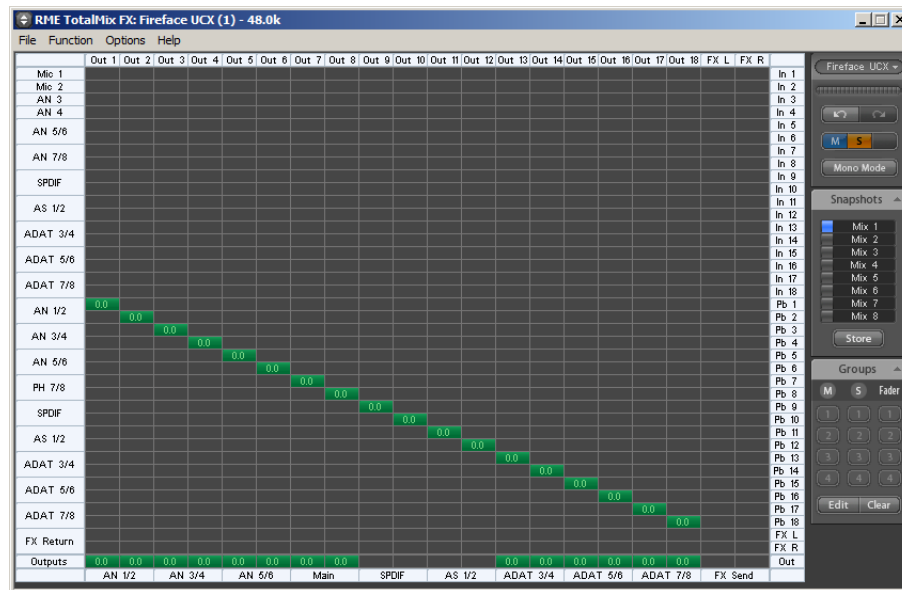


Figure 1-3: Matrix Screen

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 1-3](#). This is also included in the workspace file:

“SoundCheck Config FF UCX.tmws”.

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

ASIO Buffer

The ASIO buffer is set in the Settings Utility which is launched separately from the Mixer Utility.

- The ASIO control panel can be opened by right clicking on a **Fireface UCX** Channel Name in the SoundCheck Hardware Editor - Audio Tab. The panel in [Figure 1-4](#) will open.
- Clock Source should be set to Internal when the **Fireface UCX** is used as the only audio interface
- More channels of measurement may require a buffer value change
- Optical format can be switched to SPDIF
- The sample rate of the **Fireface UCX** automatically updates to the rate set in the SoundCheck Hardware Editor and the **Fireface UCX** 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 5](#) to get the new Latency Value for the Hardware Editor fields.

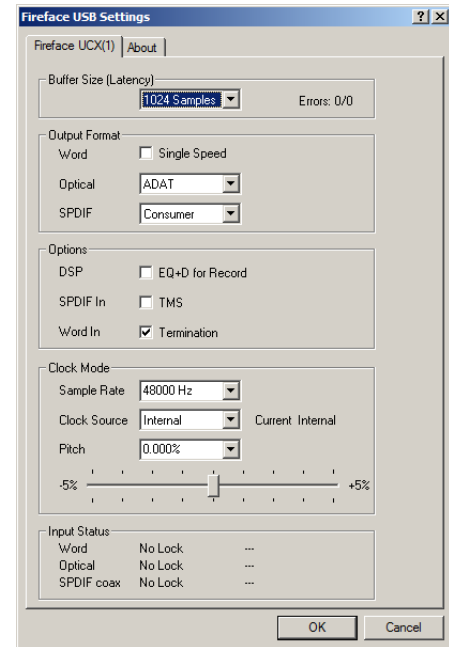


Figure 1-4: USB Settings

The default buffer size of the **Fireface UCX** driver at 44.1 kHz and corresponding Hardware Editor Latency is shown in [Figure 1-7](#) and [Figure 1-8](#). Use this chart as a guide when changing to other sample rates. You can verify that the latency is correct by following the steps in [Latency Changes on page 5](#).

SoundCheck Hardware Editor

The Hardware Editor in [Figure 1-5](#) shows the general settings for the Input and Output Vp values. Refer to [ASIO Buffer on page 3](#), [Figure 1-7](#) or [Figure 1-8](#) 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

Channel Name	Driver	Device Name	Select Ch	Vp	Analog/Digital	Sampling Rate	Alias Freq	Bit Depth	Latency
Input 1	ASIO	ASIO Fireface USB	Analog 1 (1)	12.7	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 2	ASIO	ASIO Fireface USB	Analog 2 (1)	12.7	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 3	ASIO	ASIO Fireface USB	Analog 3 (1)	5.0	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 4	ASIO	ASIO Fireface USB	Analog 4 (1)	5.0	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 5	ASIO	ASIO Fireface USB	Analog 5 (1)	5.0	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 6	ASIO	ASIO Fireface USB	Analog 6 (1)	5.0	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 7	ASIO	ASIO Fireface USB	Analog 7 (1)	5.0	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 8	ASIO	ASIO Fireface USB	Analog 8 (1)	5.0	Analog	44100 Hz	20948 Hz	24 bit	2118
Output Channels									
Output 1	ASIO	ASIO Fireface USB	Analog 1 (1)	4.7	Analog	44100 Hz	20948 Hz	24 bit	
Output 2	ASIO	ASIO Fireface USB	Analog 2 (1)	4.7	Analog	44100 Hz	20948 Hz	24 bit	
Output 3	ASIO	ASIO Fireface USB	Analog 3 (1)	4.7	Analog	44100 Hz	20948 Hz	24 bit	
Output 4	ASIO	ASIO Fireface USB	Analog 4 (1)	4.7	Analog	44100 Hz	20948 Hz	24 bit	
Output 5	ASIO	ASIO Fireface USB	Analog 5 (1)	4.7	Analog	44100 Hz	20948 Hz	24 bit	
Output 6	ASIO	ASIO Fireface USB	Analog 6 (1)	4.7	Analog	44100 Hz	20948 Hz	24 bit	
Output 7	ASIO	ASIO Fireface USB	Analog 7 (1)	4.7	Analog	44100 Hz	20948 Hz	24 bit	
Output 8	ASIO	ASIO Fireface USB	Analog 8 (1)	4.7	Analog	44100 Hz	20948 Hz	24 bit	

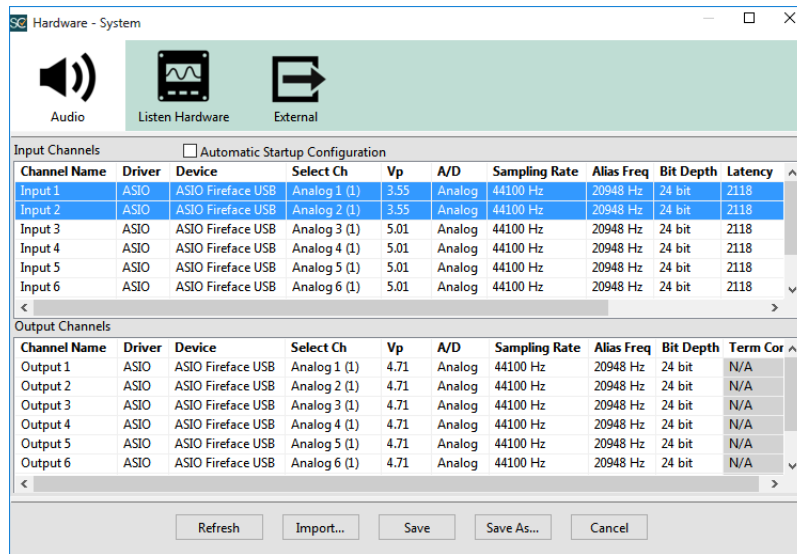
Figure 1-5: Hardware Editor

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

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.

XLR Inputs 1 and 2

XLR Inputs 1 and 2 should not be used with external preamps. Use these inputs for testing dynamic microphones or microphones that require 48V phantom power. The Vp values shown in [Figure 1-5](#) are for the TRS Line Inputs.



Input Channels									
Channel Name	Driver	Device	Select Ch	Vp	A/D	Sampling Rate	Alias Freq	Bit Depth	Latency
Input 1	ASIO	ASIO Fireface USB	Analog 1 (1)	3.55	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 2	ASIO	ASIO Fireface USB	Analog 2 (1)	3.55	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 3	ASIO	ASIO Fireface USB	Analog 3 (1)	5.01	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 4	ASIO	ASIO Fireface USB	Analog 4 (1)	5.01	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 5	ASIO	ASIO Fireface USB	Analog 5 (1)	5.01	Analog	44100 Hz	20948 Hz	24 bit	2118
Input 6	ASIO	ASIO Fireface USB	Analog 6 (1)	5.01	Analog	44100 Hz	20948 Hz	24 bit	2118

Output Channels									
Channel Name	Driver	Device	Select Ch	Vp	A/D	Sampling Rate	Alias Freq	Bit Depth	Term Cor
Output 1	ASIO	ASIO Fireface USB	Analog 1 (1)	4.71	Analog	44100 Hz	20948 Hz	24 bit	N/A
Output 2	ASIO	ASIO Fireface USB	Analog 2 (1)	4.71	Analog	44100 Hz	20948 Hz	24 bit	N/A
Output 3	ASIO	ASIO Fireface USB	Analog 3 (1)	4.71	Analog	44100 Hz	20948 Hz	24 bit	N/A
Output 4	ASIO	ASIO Fireface USB	Analog 4 (1)	4.71	Analog	44100 Hz	20948 Hz	24 bit	N/A
Output 5	ASIO	ASIO Fireface USB	Analog 5 (1)	4.71	Analog	44100 Hz	20948 Hz	24 bit	N/A
Output 6	ASIO	ASIO Fireface USB	Analog 6 (1)	4.71	Analog	44100 Hz	20948 Hz	24 bit	N/A

Figure 1-6: XLR Input Vp Value

[Figure 1-6](#) shows the nominal Vp values for the XLR inputs.

We recommend that you setup new input channels in the Hardware Editor with “XLR Input” in the Channel Name. Next run the “Audio Interface Calibration” process from the Hardware Editor to get more accurate XLR Input Vp values. Instructions are in the Hardware Editor chapter of the SoundCheck manual.

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				
USB Connection	44.1 kHz	48 kHz	96 kHz	192 kHz
ASIO	1024	1024	2048	4096
Samples	2118	2118	4205	8380
Enter the Samples value in the Hardware Editor Latency field for the selected Sample Rate.				
Figure 1-7: 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	612	612	1186	2338
Enter the Samples value in the Hardware Editor Latency field for the selected Sample Rate.				
Figure 1-8: 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)

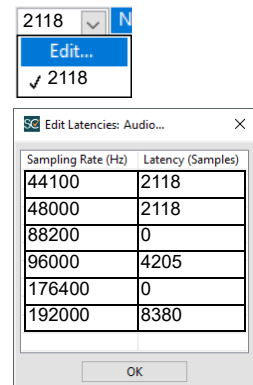


Figure 1-9: Edit Latency Table