aXMonitor

a1Monitor/a3Monitor/aXMonitor

Ambisonics to Stereo & Binaural Decoder

v. 1.5.3

User Manual



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Requirements

To use the **aXMonitor** you must have a program or DAW capable of handling plugins with the required number of audio channels without applying any additional processing.

Installation

1. Download the .zip file from your account on https://www.ssa-plugins.com
2. Unzip the folder and run the installer to place the contents in the default VST3/AU/AAX folder on your computer.
3. Open your DAW and rescan for new plugins
4. Add the plugin to a new track that can handle multichannel audio. For example, in Pro Tools | Ultimate this will require you to create an Ambisonic track/buss.
5. If required, make sure your computer is connected to the internet, enter the serial number emailed to you to activate the plugin.

To uninstall simply delete the plugin files from your computer. On Windows you can uninstall from Add/Remove Programs.

Parameters

The **aXMonitor** has only two parameters: **Gain** and **Decoding Method**. Four different methods are available:

- **Cardioid decode**: points a virtual cardioid microphone to the left and right of the sound scene and sends them to the left and right output channels.
- **UHJ Super Stereo (IIR)**: uses amplitude and phase to generate a stereo-playback compatible output that can sometimes lead to sounds coming from outside the stereo speaker array. This is implemented using infinite impulse response filters.
- **UHJ Super Stereo (FIR):** The same format but implemented with finite impulse responses via convolution.
- **Binaural:** Uses the HRTFs generated from Google's Resonance Audio to convert from Ambisonics to binaural audio. This method requires listening to be done over headphones.

The **a3Monitor** and **aXMonitor** feature **Automatic Order Detection** which matches the processing to the Ambisonic order of the input signal. This ensures that a first order signal is not being processed with higher order HRTFs. Doing so would be detrimental to both the signal output and CPU use.

Usage Notes

The **aXMonitor** should be the final plugin on your spatial audio chain before your output.

All inputs to the **aXMonitor** should be AmbiX (SN3D/ACN) format Ambisonics.

User Interface



To change between decoder modes, simply select the decoding method you want to use and make sure you are inputting four first order AmbiX format Ambisonics channels!

The output level of the signal can be controlled simply by moving the slider up or down.

Load A Custom HRTF

Custom HRTFs stored in .SOFA files can be loaded by:

1. Clicking the 'HRTF' button.
2. Clicking 'Load New .SOFA', navigating to the .SOFA file you want to load and selecting it.
3. Wait for the HRTF in the .SOFA file to be processed.
4. If successful, the name of the HRTF should show up in the list.
5. Click the name of the HRTF you want to listen using. It should be highlighted.
6. Click on 'Use HRTF'.
7. Now you are listening through

NB: .SOFA file names should not have any special characters or accents.

NOTE: AMBISONIC DECODING TO BINAURAL USES A VIRTUAL LOUDSPEAKER ARRAY. THE POSITIONS OF THE LOUDSPEAKERS ARE INTERPOLATED FROM THE LOADED .SOFA FILE. BEST RESULTS WILL BE OBTAINED FOR A .SOFA FILE THAT IS WELL DISTRIBUTED OVER A FULL SPHERE.

IF REGIONS OF THE SPHERE ARE MISSING, THE INTERPOLATION WILL DO ITS BEST TO CREATE A SUITABLE HRTF, BUT THE FINAL SPATIAL QUALITY MAY BE REDUCED.



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Third Party Tools

Google Resonance Audio - License

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Speex Resampler

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