

Free-Ambisonic-Tools

(In alphabetic order – November 2015)

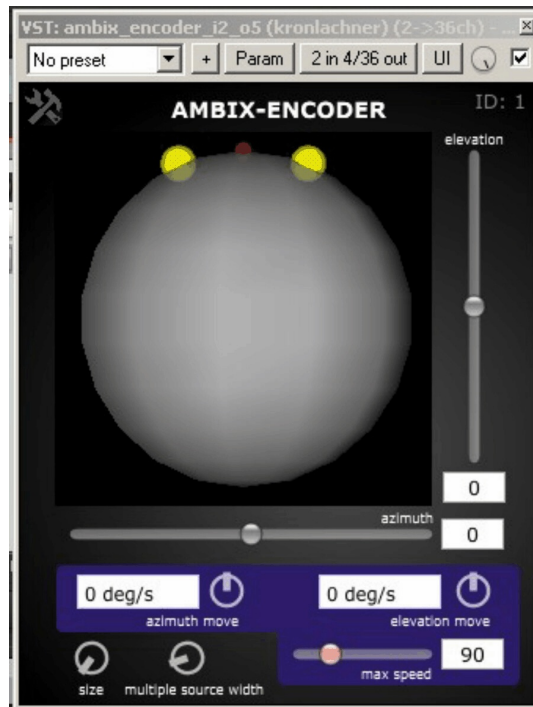
AmbiX

Standalone or VST/LV2 plug-ins for Windows, Mac OSX and Linux.

Hosts: Reaper, Ardour, MaxMSP and Bidule.

First, third and fifth-order 32 and 64-bit plug-ins for Windows and Mac OSX.

Graphical user interface.



Note: Channel ordering is ACN and normalization is SN3D so be aware of possible incompatibility with other plug-ins.

Download from: www.matthiaskronlachner.com

For more information see “Ambix-plug-in-Suite.pdf” and “Ambix-for-Mastering-and-Production.pdf” in the Supplementary Material.

AmbDec

This decoder is a Linux program. Windows and Mac versions are not available. Also, it is designed to run in the Ardour DAW as a JACK client for sound I/O. I’m including a copy of the User Manual in the Supplementary Material because it provides some interesting and useful insights into decoder design and implementation.

If you use Linux, you can find information on AmbDec at www.kokkinizita.net/linuxaudio.

AmbToolkit (ATK for Reaper)

Plug-ins for Windows and Mac OSX

Hosts: Reaper versions 4.75 and above

Graphical user interface.

Note: The toolkit is currently for first-order only but still may be of interest because of the interesting tilt, rotate and other processing plug-ins. Because it’s first-order, channel ordering is FuMa (plain old ambisonics!).

The JSFX plug-ins seem unique to this toolkit and the installation notes seem a bit incomplete for Windows. For me, this worked: Open Reaper and click Options and then “Show Reaper resource path in explorer/finder.” Select the Data folder and create a new ATK subfolder. Select the Effects folder and create a new ATK subfolder. Then unzip the download file into both of the new subfolders. The plug-ins will show as JS in the Reaper FX Browser.

The Mac installation guide appears more complete but I have no way to check it out.

Download from: www.ambisonictoolkit.net/wiki/tiki-index.php

For more information see “ATK-for-Reaper-Read-Me.pdf” and “ATK-Reaper-The Ambisonic-Toolkit.pdf” in the Supplementary Material.

Bpan3 and Bdec3

Third-order only panner and decoder plug-ins for Windows. (The panner can be used for first or second-order by using just the first four or first nine outputs.) FuMa ordering and MaxN normalization.

Host: Reaper or other DAW with a 16-channel.

Non-graphical user interface with 10 parameters that can be set. Details in the rather-sparse, 4-page documentation, “Bpan3-Bdec3.pdf” in the Supplementary Material. The Distance, center and distance factor parameters allow panning outside and inside as well as on the unit sphere.

Download from: www.york.ac.uk/inst/mustech/3d_audio/vst/pc_3rd_order.zip

See also: www.york.ac.uk/inst/mustech/3d_audio/ambis2.htm

CDP Multi-Channel Toolkit (MC Tools)

Command-line tools for up to third-order for Windows and Mac OSX (minimum version supported is 10.5 –Leopard).

Yes, it’s a set of command-line programs which run in the command-line screen of your OS. But many examples are given in the documentation and they seem to work fine.

FuMa file ordering and apparently MaxN normalization.

Download from: [//people.bath.ac.uk/masrwd/mctools.html](http://people.bath.ac.uk/masrwd/mctools.html)

For documentation see: “How-to-make-an-amb-file.pdf” and “CDP-Multi-channel-Toolkit.pdf” in the Supplementary Material.

Note: The *chorder* command can be used to reorder the B-format file order.

CircleSound

An encoding VST plug-in, first to fifth-order for Windows and Mac, see screen shot below.

Graphical or numeric user interface.

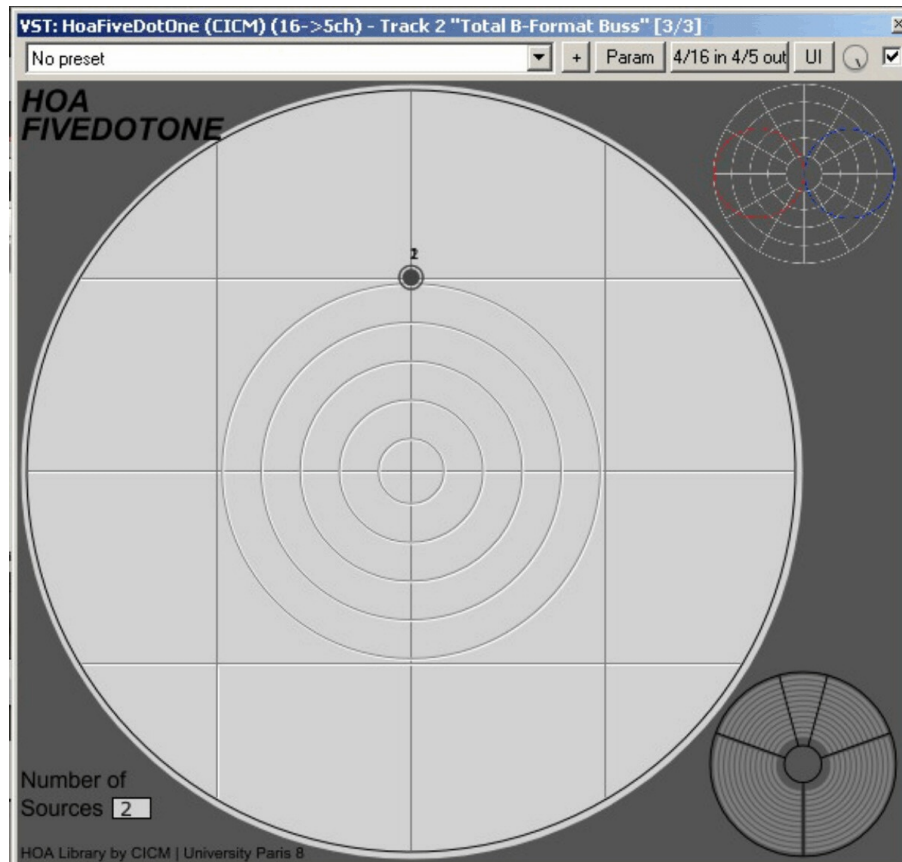


Although this is an alpha version, it appears to be a very useful plug-in with its versatile controls and choice of weighting (normalization). Fu-Ma also defines the wave file order but apparently this works to only third-order. Fifth-order requires 64 output channels so the choice of DAWs is rather limited: Reaper for Windows and Mac, Audacity and MaxMSP 6 for just Windows – according to the User Guide (BFormatEncoderDoc.pdf) included in the Supplementary Material. Download from: [//circlesounds.worldpress.com/vst-plugins/](http://circlesounds.worldpress.com/vst-plugins/)

High Order Ambisonic Library

VST plug-ins for 32 and 64-bit Windows and Mac.

Graphical user interface.



A set of six up-to-third-order decoders, that is, 2 to 16 inputs with 2 (binaural) to 16 speakers (HexaDeca). The speakers may be positioned graphically (default) or numerically by using the “UI” button. Positioning may be outside, on or inside the unit circle.

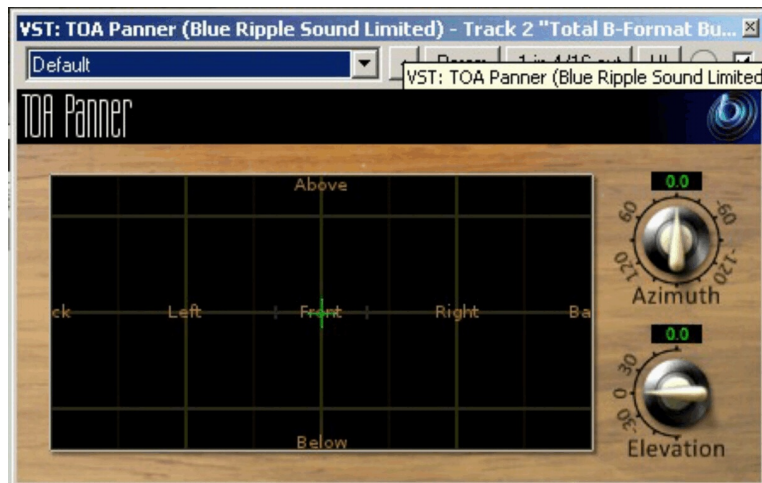
Note: The plug-ins are fine in Reaper version 5.1 in both the 32 and 64-bit Windows 7 but were not recognized by Reaper 5.1 in 32-bit Windows XP.

Download from: www.mshparisnord.fr/hoalibrary/en/downloads/vst/

A copy of the sparse (5-page) documentation is included as “HOA-Library.pdf” in the Supplementary Material.

TOA CORE VST

Third-order VST plugins for 32 and 64-bit Windows and Mac.
Graphical user interface.



This is a fairly large library of encoders, processors, meters and decoders by Blue Ripple Sound but they are very basic. For example, the encoders (panners) have only azimuth and elevation controls so all panning is limited to the unit circle. The documentation (included in the Supplementary Material) is excellent and it's based on using the plug-ins in the Reaper DAW. Although it is named the "TOA Decoder – 5.1 Basic," the LFE channel is not used and it is identical to the WigWare (Dr. Bruce Wiggins) 5.0 decoder. The channel order is FuMa so these plug-ins can be used interchangeably with those in WigWare.

WigWare (Dr. Bruce Wiggins)

First, second and third-order encoders and decoders for 32 and 64-bit Windows and Mac.
Also, a fourth-order decoder for Windows and Mac and Direct-X decoders for Windows Media Player and other players (untested by me).
Graphical user interface (default) and some additional controls using the "UI" button.



The encoders (panners) have a control to move the source towards the listener (inside the unit circle) and the NFC (Near Field Compensation) to lower the volume and well as the usual azimuth and elevation controls.

FuMa file ordering and (I think) MaxN normalization.

Very little written documentation (see WigWareDoc.pdf in the Supplementary Material) but several video tutorials (using Reaper) are available by clicking the “Teaching” button at the top of the Home Page.

Download from: www.brucewiggins.co.uk Then click the “WigWare” button at the top of the page.

These plug-ins are free but donations are cheerfully accepted, just click the DONATE button on the WigWare page and use your Paypal account.