

The Blog of Bruce

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WigWare

During my research, it soon became clear that although a number of people were carrying out research around the area of Ambisonic surround sound, few people were enabling others to actually use the technique!



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To hopefully help remedy this situation, I've created a number of [VST Plugins](#) that can be used in many Digital Audio Workstations (DAWs). Screencast tutorials can be found on the [Teaching page](#) of this site which shows you ways of using these plug-ins in [Reaper](#). I recommend setting up the project using hierarchical routing, as shown in one of the later videos, but manual routing works too (as shown in the earlier ones).

The plug-ins are available for Mac and PC, and can be downloaded below. The plug-ins are free to use for personal and educational use. If you're using them for commercial work, please contact me, as it's nice to know when and how my software is being used (a credit would also be nice, and donations are always welcome!)

64-bit Versions of these plug-ins can now be found directly below. Some changes had to be made to compile these, so I've left the older on the page too! Any issues, let me know. The Mac plug-ins are now universal binary so will be picked up as 32-bit for 32 hosts and 64-bit for 64-bit hosts. The PC ones are separate downloads. Just keep them in separate directories for each type of host.

Latest Mac and PC, 32 and 64-bit WigWare Plug-ins

- [Mac 1st Order WigWare 32 and 64 Bit Plug-ins](#)
- [Mac Higher Order WigWare 32 and 64 Bit Plug-ins](#)
- [PC 1st and Higher Order WigWare 64 Bit Plug-ins](#)
- [PC 1st and Higher Order WigWare 32 Bit Plug-ins](#)

Below are the downloads for the 32-bit only versions. I've kept them on the site in case any changes I've made to the 64-bit versions above (and new compiles etc.) have broken anything!

1st Order WigWare Mac (These have now been updated to work on Mac OSX 10.4 and 10.5)

- [WigWare Ambisonics Decoders \(Mac\)](#)
- [WigWare Ambisonic Panners \(Mac\)](#)
- [WigWare Ambisonic Reverb \(Mac\)](#)

1st Order WigWare PC

- [WigWare Ambisonic Decoders \(PC\)](#)
- [WigWare Ambisonic Panners \(PC\)](#)
- [WigWare Ambisonic Reverb \(PC\)](#)

Higher Order Ambisonics (HOA)

- [WigWare 2nd Order Ambisonic Panners \(PC\)](#)
- [WigWare 3rd Order Ambisonic Panners \(PC\)](#)
- [WigWare 2nd Order Ambisonic Panners \(Mac\)](#)
- [WigWare 3rd Order Ambisonic Panners \(Mac\)](#)
- [WigWare Higher Order 5.0 Ambisonic Decoder \(Mac\)](#)
- [WigWare Higher Order 5.0 Ambisonic Decoder \(PC\)](#)

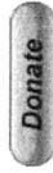
→ WigAmbiDec-4o-ITU.dll.zip

DirectX (Windows Media Player et al.) Plug-ins

These plug-ins, when installed (look at the readme file!), will automatically be used in directx aware media players when a .AMB file is played. Choose the plug-in that best matches your speaker layout! (For more details on the file format, and how to create files of this type have a look [here](#), [here](#) and [here](#)). These were created quite a while ago now, so let me know if you have any problems with them!

- [Square Decoder \(4 channels\)](#)
- [ITU 5.0 Decoder \(5 channels\)](#)
- [Hexagon with a speaker directly in front \(6 channels\)](#)
- [Hexagon without a speaker directly in front \(6 channels\)](#)
- [Octagon with a speaker directly in front \(8 channels\)](#)
- [Octagon without a speaker directly in front \(8 channels\)](#)
- [3D Cube \(8 channels\)](#)

Encourage me to develop more Ambisonic plugins (and upgrade my 8 year old PC!) by clicking:



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Teaching

I've created this mini-site to support students at the University of Derby using my plug-ins for Music Production and Live Work. I've made it public so others can benefit too! [Tweet](#)

UPDATE (Nov 2012): Here's some videos (recorded live, rather than in my office!) consisting of much of the content from the old videos, but using version 4.x of Reaper which has much better multi-channel routing. I don't talk about hierarchical routing in these, but this is still the same, and available further down the page using version 3.x of Reaper.

The YouTube Playlist (comprising of three videos) can be found [using this link](#).

The individual video links are:

- [Introduction Presentation \(using Reaper v4.x\)](#)
- [Setting up and using WigWare Decoders, Panners and Audio tracks \(using Reaper v4.x\)](#)
- [Simple Automation of WigWare in Reaper \(using Reaper v4.x\)](#)
- [What to Hand-in On CD \(CMS Assignment!\) \(using Reaper v3.x\)](#)
- [Hierarchical Routing in Reaper Part 1 \(using Reaper v3.x\)](#)
- [Hierarchical Routing in Reaper Part 2 \(using Reaper v3.x\)](#)

[WigWare Ambisonic Plugins](#) – Download PC and Mac versions of my 1st order plugins from here.

[Reaper Project Templates](#) – Download empty, but completely setup and routed Reaper projects from here.

These are the links to the older videos covering the same material as the new videos above. I've kept them here in case there's anything I explain better in these (which were recorded in my office) vs the live recorded videos above!

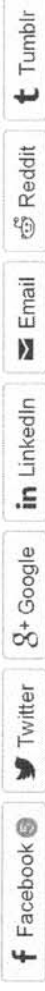
Links to the screen casts detailing how to use the WigWare plug-ins and Ambisonics in Reaper can be found below (all open in new window):

- [Introduction Presentation](#)
- [Setting up the WigWare Ambisonic Decoder](#)
- [Setting up the B-Format Bus](#)
- [Setting up the Audio Tracks and Ambisonic Panners](#)
- [Simple Automation in Reaper](#)
- [What to Hand-in On CD \(CMS Assignment!\)](#)

In Reaper, it's possible to construct a hierarchy of tracks with child tracks automatically routing all channels of that track to the parent. This can potentially simplify and speed up the creation of Ambisonic mixes. If you want to know more, view the following two screencasts!

- [Hierarchical Routing in Reaper Part 1](#)
- [Hierarchical Routing in Reaper Part 2](#)

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Recent Comments

- Bruce Wiggins on 64-bit WigWare Ambisonics Plugins Now Available.
- Greg Brotherton on 64-bit WigWare Ambisonics Plugins Now Available.
- Ian Fleming on 64-bit WigWare Ambisonics Plugins Now Available.
- Bruce Wiggins on [OSX and Mavericks Fixed Plug-ins](#)
- Bruce Wiggins on [OSX and Mavericks Fixed Plug-ins](#)

Bruce's Tags

5.1 [Ambisonics](#) [audio](#) [backtype](#) [bidule](#) [blog](#) [Browsers](#) [groups](#) [HTML5](#) [Impact](#) [kinect](#) [Live Music](#) [Mac](#) [Ning](#) [osc](#) [plugin](#) [processing](#) [org](#) [REF](#) [Research](#) [Social](#) [Networking](#) [theremin](#) [topsy](#) [Tweet Counter](#)
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Interesting Links

- [icst.net](#): ICST tools for MaxMSP
- [Ambisonic Studio](#)
- [Sound of Space](#): ambisonic surround sound
- [Ambisonic.Net](#) - where surround-sound comes to life

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/*****
|
| http://www.BruceWiggins.co.uk
| Wigware Ambisonic Encoder 20
| Version 0.91
| 27-09-2012
|
| *****/

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0. You use this software at your own risk, I cannot and will not be held responsible for any adverse effects this software causes.....IT IS STILL IN THE BETA STAGE OF DEVELOPMENT (not that it should do, however ;-)
1. Unzip the dll file into your VST plugin directory (normally c:\program files\steinberg\vstplugins)
2. For PERSONAL AND EDUCATIONAL USE ONLY.
3. If you wish to use this software for research and/or commercial activities, contact me b.j.wiggins@derby.ac.uk

These plug-ins take a mono input and output the seven (2D) or sixteen (3D) channels of 3rd order B Format. If NFC (near field compensation) is set to OFF then as the source is moved into the middle, the directional components are turned down (centre sources comes out of every speaker equally when decoded). If NFC is set to a distance, then the distance parameter then controls the distance filtering which applies LF boost (proximity effect) as the source moves closer to the middle. This will be a subtle thing for 1st order, but is included for research purposes!

Any questions, visit the website and ask away!