

# ILLUSONIC

ILabdecoder

## **Illusonic AB decoder plugin**

**Illusonic GmbH**  
Uster, Switzerland

Contact:  
[support@illusonic.com](mailto:support@illusonic.com)

[www.illusonic.com](http://www.illusonic.com)

Information in this document is subject to change without notice.  
All rights reserved.

# 1 ILabdecoder - Plugin

The plugin is available in the following plugin formats:

- Mac OS
  - AAX  
64 bit architecture
  - VST3  
64 bit architecture
  - AU  
64 bit architecture

Installation: use the provided installer package.

- Windows
  - VST3  
32 and 64 bit architecture

Installation: unzip the delivery package and copy the plugin file (.vst3) into the folder:

C:\Program Files\Common Files\VST3

## 2 ILabdecoder - Parameters



Decoding

- Rotation  
rotation of sound image
- Elevation  
elevation of sound image
- Center focus  
beam former focus for the center channel
- Front focus  
beam former focus for the front channels

- Surround focus  
beam former focus for the surround channels
- Rear focus  
beam former focus for the rear channels
- Front elevated focus  
beam former focus for the front elevated channels
- Surround elevated focus  
beam former focus for the surround elevated channels
- Front angle  
angle between left and right front channels
- Surround angle  
angle between left and right surround channels
- Rear angle  
angle between left and right rear channels
- Front elevated angle  
angle between left and right elevated front channels
- Surround elevated angle  
angle between left and right elevated surround channels
- Diffuse gain  
beam former diffuse sound gain
- Diffuse de-correlation  
beam former diffuse decorrelation

#### Outputs

- Center gain  
gain for center channel
- Front gain  
gain for front channels
- Surround gain  
gain for surround channels
- Rear gain  
gain for rear channels
- Front elevated gain  
gain for elevated front channels
- Surround elevated gain  
gain for elevated surround channels
- LFE gain  
gain for LFE channel
- Back delay  
delay on surround channels
- Back shelving frequency  
cut-off frequency of high-shelving filter applied to surround channels
- Back shelving gain  
gain of high-shelving filter applied to surround channels

#### Omni Microphone Bass

- variable crossover for use with A.1-Format's .1 signal
- "A.1-Format": A-Format plus an omni mic signal

#### Channel ordering

- Channel Test  
Run channel ID test signal to confirm channel ordering.

### 3 ILabdecoder - Changelog

#### Version 1.10.0: December 04, 2019

- add Windows VST3 versions

#### Version 1.11.0: December 19, 2019

- add 'cube' and 'cube+center' formats
- improvements for LFE (add 10 dB overhead / add 'mute' state / fix slider)
- fixes and improvements for HRTF handling

#### Version 1.12.0: February 21, 2020

- redesign plugin interface
- add AU version
- sundry gui and usability updates

#### Version 1.13.0: June 02, 2020

- new Test Channels function to conveniently check input and output multi-channel channel ordering
- changed channel ordering of Cube format to 5.1 (C and LFE are silent)
- added new Cube & Center & Sides format
- many other small changes, additions and improvements

#### Version 1.14.0: August 27, 2020

- improve beam display
- improve output mixing processing
- many other small changes, additions and improvements
- add "notarization" for all Mac versions

#### Version 2.0.0: December 14, 2020

- add new input format "A.1-Format", which is A-Format plus an omni mic signal
- variable crossover for use of A.1-Format's .1 signal
- remove hard limiter at 0dB output

#### Version 2.1.0: March 05, 2021

- fix issue where Reaper could use only 8 channels

#### Version 2.2.0: March 15, 2021

- fix issue where signals were not properly muted

#### Version 2.3.0: March 31, 2021

- improve diffuse sound handling, this improves overall quality significantly
- change default parameters to be more optimal for all formats
- improve binaural rendering and add headphones equalization

#### Version 2.4.0: July 28, 2021

- add A-Format as output option
- new output format: Cube + Center + Side + Rear

#### Version 2.4.1: July 28, 2021

- improve signal processing performance

#### **Version 2.5.0: October 18, 2021**

- bug fixes in algorithm core
- change "Cube+Center+Side+Rear"
  - edit handling of surround channels "..+Back"
  - put rear center to LFE position
- macOS: add support for 'arm64' (based on beta version of AAX SDK)

#### **Version 2.6.0: December 09, 2021**

- fix issue where 2nd and 3rd order B-Format output formats were disabled
- fix issue with the new cube+center+side+back format

#### **Version 2.6.1: December 10, 2021**

- fix for v2.6.0

#### **Version 2.7.0: April 13, 2022**

- enable bass panel for all input formats (= bass management with W signal as bass)
- cube formats: fixed bug with channel type assignments
- now show expiration date in plug-in
- set expiration date to end of 2023

#### **Version 2.8.0: May 25, 2022**

- add level meters for input and output audio
- add 'alt' versions for 7.1.x audio formats