

WAVES

DTS Neural Mono2Stereo



USER GUIDE



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Chapter 1 – Introduction

1.1 Welcome

Thank you for choosing Waves! In order to get the most out of your Waves processor, please take the time to read through this manual.

In conjunction, we also suggest you become familiar with www.wavesupport.net. There you will find an extensive answer base, the latest tech specs, detailed installation guides, new software updates, and info on your Waves product licenses.

By signing up at www.wavesupport.net, you will receive personalized information on your registered products, reminders when updates are available, and more.

1.2 Product Overview

The Waves DTS Neural Mono2Stereo plugin is a high-quality stereo synthesis tool that assists in the creation of surround content in the live broadcast and post-production market. Users have complete control over how mono elements are positioned and perceived in the final stereo or 5.1 mix.

When using the plugin in multiple instances on sub-mixes or individual mono sources, audio elements can be spatially separated to preserve intelligibility and create an enveloping image, nearly indistinguishable from native stereo content.

Key use cases:

- Anywhere a mono microphone is used
- Live and playback sports broadcasts
- Live and playback music events
- Internet streaming and webcasting
- Terrestrial radio broadcasting

Solving Problems for Live Sports Broadcast

To deliver a compelling experience to audiences watching live sporting events, it is imperative to capture all of the sights and sounds of the game or race event. Ambient

sounds such as crowd noise, racing car engines, cracking baseball bats, and comments from the football field are often captured as mono sources. The challenge for mixers is to arrange all of these complex elements into an immersive mix without masking the announcer's play-by-play commentary. With the DTS Neural Mono2Stereo plugin, broadcast engineers can easily create a spectrally balanced stereo image from mono sources for accurate placement in a 5.1 or 7.1 mix. As a result, the ambient effects will be decoded and reproduced as the mixer had intended, preventing unwanted ambient content from being steered directly to the center channel.

Solving Problems for Remote Broadcast

Broadcast networks and content providers are seeking cost-effective technologies to improve audio workflows. The DTS Neural Mono2Stereo plugin is an ideal software replacement for the legacy hardware components that many broadcast trucks are currently using. By providing a software-based solution in a plugin format, remote broadcast companies can now upgrade to modern equipment without losing the processing tools that have become integral to their production workflow.

1.3 Sample Rate Support

The DTS Neural Mono2Stereo plugin supports 44.1 kHz and 48 kHz sample rates.

Chapter 2 – Interface and Controls

2.1 Interface



2.2 Controls

Input Section



Input Meter

Indicates the level of the incoming signal. The meter has a peak hold of one second (standard in Waves plugins). The peak indication can be cleared by clicking on the Red indication.

Additionally, a numerical display field below the meter displays the held peak value in dBFS.



Input Trim

The dB gain attenuation applied to the input before processing.

Range: -20 dB to 0.0 dB

Default: 0 dB



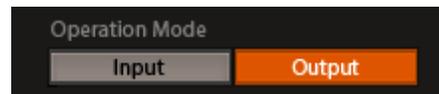
Settings Section



Operation Mode

The plugin has two user-selectable monitoring modes:

- Output (default) – Audio is processed by the plugin.
- Input – Input is bypassed (no processing) to both the left and right output channels.



Stereo Width

Controls the amount of phase difference between the resulting left and right output channels.



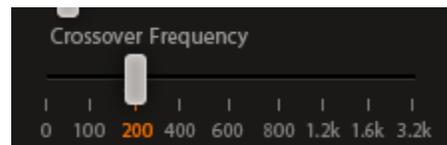
Range: 0.0 to 1.0, corresponding to phase difference range of 0.0 to 90.0 degrees

Default: 0.0

Crossover Frequency

Lets you create a non-linear phase difference between channels, where lower frequencies remain more mono (in-phase) while higher frequencies are made wider.

Frequencies below the crossover frequency remain mono.



Options: 0 Hz, 100 Hz, 200 Hz, 400 Hz, 600 Hz, 800 Hz, 1200 Hz, 1600 Hz, 3200 Hz

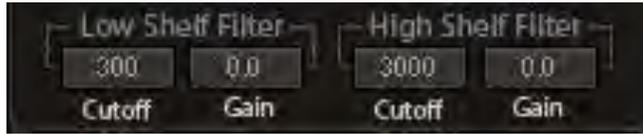
Default: 200 Hz

Lo-Pass and Hi-Pass Filters

Low-Shelf Gain

Range: -12.0 to 12.0 dB

Default: 0



Low-Shelf Cutoff

Range: 20 to 300 Hz

Default: 300 Hz

High-Shelf Gain

Range: -12.0 to 12.0 dB

Default: 0

High-Shelf Cutoff

Range: 2000 to 10000 Hz

Default: 3000 Hz

Output Section

Trim

Range: -9.0 dB to 9.0" dB, in 0.5 dB increments

Default: 0 dB

Output Channel Solo

The "S" solo buttons allow to monitor the processed signal of the L or R output separately.

Options: On/ Off

Default: Off

Limiter

The Limiter section let you adjust the limiter and specify the ceiling using the Ceiling slider. The limiter includes release time for a 20 dB recovery, with a range of 50 to 5000 milliseconds.



Ceiling Range: 0 to -24 dBFS

Default: 0 dBFS

Limiter Release Range: 50 to 5000 ms

Default: 50 ms

Output Meters

Indicate the level of the outgoing signal. These meters have a peak hold of one second (standard in Waves plugins). The peak indication can be cleared by clicking on the Red indication.

Additionally, a numerical display field below each meter displays the held peak value in dBFS.