

# WNS

## Waves

### Noise Suppressor



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# Chapter 1 – Introduction

## 1.1 Welcome

Thank you for choosing Waves! In order to get the most out of your new Waves plugin, please take a moment to read this user guide.

To install software and manage your licenses, you need to have a free Waves account. Sign up at [www.waves.com](http://www.waves.com). With a Waves account you can keep track of your products, renew your Waves Update Plan, participate in bonus programs, and keep up to date with important information.

We suggest that you become familiar with the Waves Support pages: [www.waves.com/support](http://www.waves.com/support). There are technical articles about installation, troubleshooting, specifications, and more. Plus, you'll find company contact information and Waves Support news.

## 1.2 Product Overview

The WNS Waves Noise Suppressor was designed and engineered for Post Production professionals who require fast and effective broadband noise suppression for the cleaning of dialog tracks. It is suitable for both indoor and location recordings of dialog polluted by stationary and/or modulating environment noise.

WNS is not intended for surgical removal of specific short term interferences. It is, rather, a general noise suppressor that will preserve the dialog and suppress unwanted signal simply and smoothly, with natural sound and minimal artifacts.

### About Waves Post Production Tools

When Waves decided to develop a line of dedicated audio processors especially for Post Production, we conferred with the people who truly understand the field better than anyone: The Post professionals who design, edit, and mix sound for motion pictures, television, multimedia, and video games.

Waves knows that Post Production work presents audio engineers with specialized challenges. Once we had identified and analyzed these issues and concerns, we set out to create the most advanced, most innovative Post Production sound solutions available.

Waves is proud to bring more than two decades of audio processing expertise to the world of Post Production.

## 1.3 Concepts and Terminology

The Waves WNS Noise Suppressor is a high resolution broadband noise suppressor for dialog tracks, engineered especially for post production professionals.

The WNS is based on an exclusive 6-band dynamic EQ engine, with 3 standard EQ filters per band. Using 2 basic controls, Threshold and Gain reduction, WNS defines and then suppresses all signal it perceives as non-dialog. It does not introduce any latency, nor does it require noise print learning. Simply set the global Threshold to just below the dialog level, and then use the Frequency range faders to shape the desired reduction intensity.

Two additional controls, Low Frequency and High Frequency, set the noise suppression frequency range, leaving the areas below and above that range, respectively unprocessed. If the Low Frequency is set to 80 Hz, and the High Frequency is set to 8000 Hz, the graph will reflect these borders, and not display any signal beyond the specified range (The minimum adjustable frequency range is two octaves).

In addition; High Pass and Low Pass filters can be engaged to cut frequencies below or above the "border values".

Default frequency area for each gain fader:

<b>Fader</b> (Left to right)	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Frequency</b> (Hz)	<b>30</b>	<b>99</b>	<b>330</b>	<b>1094</b>	<b>3627</b>	<b>12027</b>

## 1.4 Components

WaveShell technology enables us to split Waves processors into smaller plugins, which we call **components**. Having a choice of components for a particular processor gives you the flexibility to choose the configuration best suited to your material.

The Waves Noise Suppressor consists of two components:

- WNS Mono
- WNS Stereo

## 1.5 WaveSystem Toolbar

Use the bar at the top of the plugin to save and load presets, compare settings, undo and redo steps, and resize the plugin. To learn more, click the icon at the upper-right corner of the window and open the WaveSystem Guide.

## Chapter 2 – Quick Start Guide

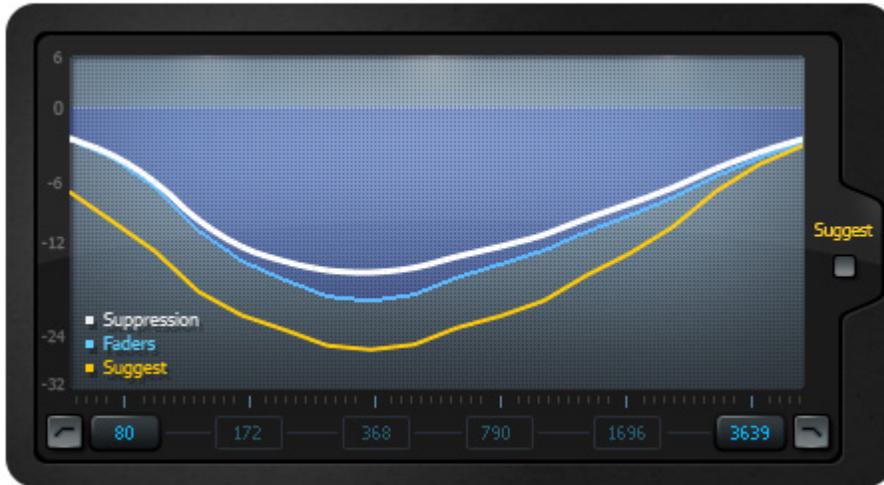
- Insert the WNS on a dialog track. Typically, it should be placed before other dynamic processors which may increase noise.
- Using your ears as well as the WNS noise profile curve, locate the frequency range(s) that requires noise suppression.
- Lower the Gain for the frequency range(s) that you want to suppress.
- If needed, change the value of the Global Threshold to ensure the right amount of suppression is taking place.
- If desired, limit the frequency range to which suppression is applied using the High and Low frequency range selectors. Please note: The gain faders are always aligned to the frequency range defined by the frequency selectors. For example, if you limit the range to between 50Hz and 800Hz, then the faders will be distributed across the range between these values.
- Frequencies outside of the specified range are not affected by the gain faders, but can be filtered out using the low pass and high pass filters.
- Use the content-dependent Smoothing fader to control the release behavior of the suppressor.
- The four center Gain Fader values are set according to the High and Low frequency borders. If you know the frequency that you want to suppress, use the High and Low frequency range selectors to set one of the gain faders to the exact value; all fader values update in real-time. If, for example, the frequency you need is 555Hz, set the Low frequency range selector to 70Hz and the High frequency range selector to 12410hz; the third fader from the left will then be set to 555Hz.
- The Suggest feature is based on the real-time noise profile that the WNS extracts from the audio file. Use Suggest as a starting point, then adjust the Threshold and/or Gain Faders to suit your specific needs.

# Chapter 3 – Interface and Controls

## 3.1 Interface



## 3.2 Controls



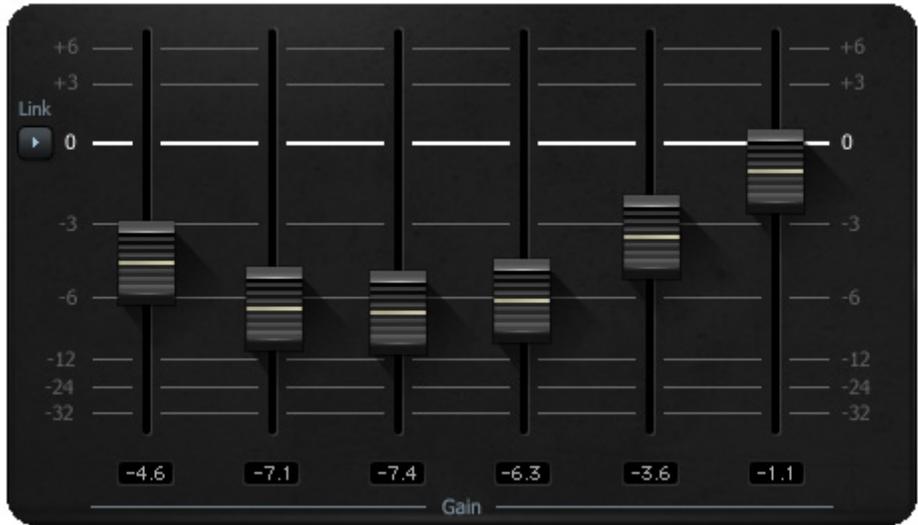
### Display

- **Bold White** line represents the Noise Suppression.
- **Thin Orange** line represents the detected Noise Profile.
- **Light Blue** line represents the gain fader's current location.



**Threshold** controls the level at which noise suppression is activated.

Range: -80 to 0dB  
Default: -20dB



**Gain Faders** control the amount of noise suppression.

Range: -32 to +6 dB  
Default: 0dB



**Smoothing** controls the release behavior of the noise suppression.

Range: 1 – 100  
Default: 50



**Suggest** takes all gain faders to the suggested suppression noise curve according to the WNS noise profile detector.



**Link** moves all gain faders together simultaneously.



## Frequency Area

The minimum interval between the high and low borders is two octaves.



**Low Frequency** determines the lowest range of the noise suppression.

Range: 20 Hz to 4000 Hz  
Default: 30 Hz



**High Frequency** determines the highest range of the noise suppression.

Range: 400 Hz to 20000 Hz  
Default: 12027 Hz



**HP** is a high pass filter which filters out the signal below the selected frequency.

Range: On, Off  
Default: Off



**LP** is a low pass filter which filters out the signal above the selected frequency.

Range: On, Off  
Default: Off