

Noise Reduction

Version 1.0.0

Welcome

Thank you for downloading this fine plug-in. **Noise Reduction** is a VST plugin containing a spectral noise gate optimized build to remove unwanted noise.

In order to get the most out of the **Noise Reduction** plugin, please spend a few moments reading this brief manual.

License

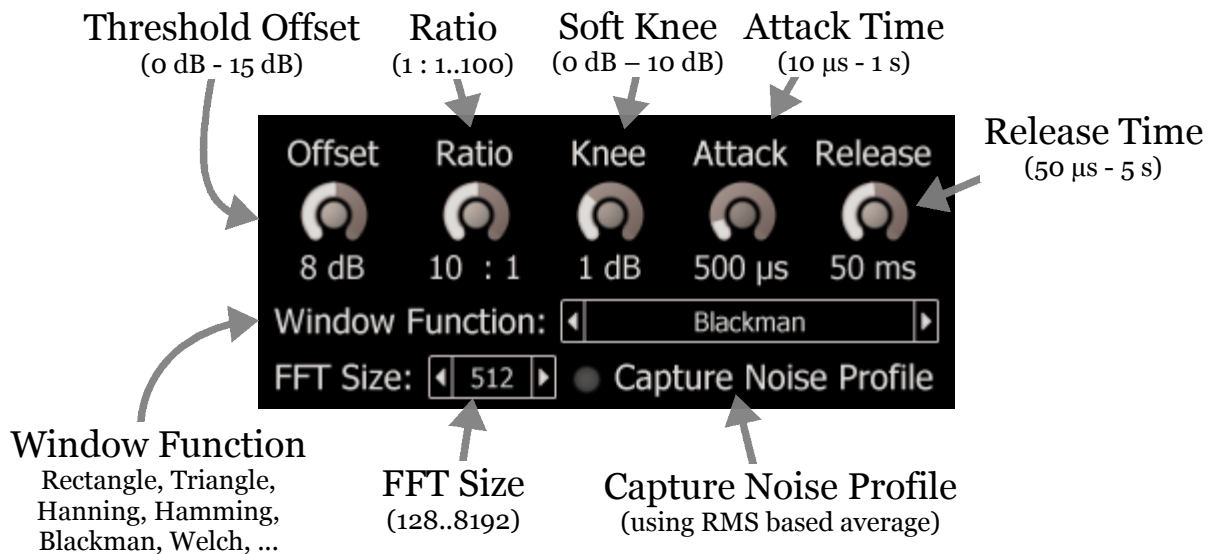
The pre-compiled **Noise Reduction** has a very simple license:

1. **Noise Reduction** is freeware. This means that you are free to distribute it, give it to friends, or otherwise share it around. However, only the entire unaltered archive, including this document, may be re-distributed.
2. Copyright of the code and the finished plug-in remain the property of the *Delphi ASIO & VST Project* and namely *Christian-W. Budde*.
3. This plug-in is provided at no cost; therefore the author *Christian-W. Budde* assume no responsibility for any negative effects that may occur to the end user or the equipment used to run the plug-in.
4. Magazine editors are welcome to include the plug-in on cover mount discs or similar media; however, I request that am informed about it via [e-mail](#). A few copies of the publication are always appreciated, but not expected.

User Interface

The user interface shows all adjustable parameters and a readout for the characteristic curve. There are no meters available to maintain the lowest possible CPU usage without wasting too much CPU cycles. Either a dedicated analyse plugin or the build in meters can be used for this task.

Here is a commented screenshot:



The dials can be adjusted by clicking and dragging up and down on a dial. To reset the dials to their defaults hold the [Ctrl] key while clicking on the dial. Holding the [Shift] key enters the fine tune mode.

Below any dial a read out shows the exact value of a parameter.

The switches can be toggled by simply clicking the LED or the text.

NOTE: When the plugin is capturing the noise profile the noise reduction takes place immediately. Some seconds should be satisfying.

The parameters

This plugin features seven adjustable parameters. The five dials control the gate and the two select boxes control the frequency domain processing.

Gate Parameters

The five gate parameters control several instances (one per FFT band) at once.

Threshold Offset

The threshold for each gate is tweaked automatically by noise profile capture algorithm. However, the threshold should typically be raised a bit in order to filter out the noise effectively.

In future revisions the capture algorithm might be improved so that less tweaking is necessary. Until then an amount of 8 dB gave good results.

Ratio

The ratio determines the input/output ratio for signals above the threshold. In this plugin the ratio can be adjusted between 1:1 to 1:100. For example, if a value in a band is 1 dB below the threshold it will be attenuated even further to 6 dB in case of a 6:1 ratio setting.

Soft Knee

Around the threshold it is sometimes desired to have a slow transition towards the selected ratio. In case of a value above 0 dB the ratio slowly increases if the level increases.

The soft knee parameter in dB is the margin below the given threshold. This usually results in a lower level compared to a rather hard knee. This holds especially if the input signal is around the threshold. Keep this in mind when comparing hard vs. soft knee.

Attack Time

The attack time controls the duration until the compressor reaches 50% of the level determined by the ratio. Internally it is implemented as a simple envelope follower based on a first order filter with a very low frequency (tuned by the attack time). Compared to other manufacturers this time may differ, so take care while comparing this compressor with other compressors.

Release Time

The release time controls the duration until the compressor recovers if the input falls below the threshold. It is implemented identical to the attack stage (see above).

Feedback / Bug Reports

I am always eager to hear feedback or have bugs reported. The easiest way is to send me a mail to: Christian@aixcoustic.com

Furthermore feel free to download the source code, that can be found in the [Delphi ASIO & VST Project](#) at sourceforge.net.

Version History

1.0.0	First release!
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Credits

- Programming: Christian W. Budde
- Additional Framework Programming: Tobias Fleischer, Maik Menz
- Special Thanks: Swen Müller, Duncan Parsons, Laurent de Soras
- Documentation based on a template by Greg Pettit

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