DeEss User Guide

Introduction

SSL DeEss is a **workflow-oriented correctional tool** for classic precision sibilance reduction and high-frequency control.

Alongside workflow enhancements such as **automatic auditioning** and **built-in brighten control for rejuvenating de-essed signals**, DeEss uses a **relative threshold algorithm**: allowing you to change the input level of the signal without a destructive effect on the response of the de-esser. This also means that you can de-ess quiet sibilant events just as effectively as loud ones!

With DeEss, you can **quickly target only the mid or side components of the signal**, as well as toggling in **automatic oversampling** and **lookahead options** for a high-quality response. Not only this, but DeEss ships with **carefully designed presets** for different vocal types (**Tenor**, **Alto**, **Soprano**) and even instrument processing – de-essing is **no longer just for vocals**!

Key Features

- **Relative threshold** de-esser
- Independently toggle-able **high and low-pass sidechain filters**
- **Sidechain FFT graph** with draggable filter handles
- **SPLIT** mode: suppress only the defined frequency range when triggered
- **BROADBAND** mode: suppress the entire signal when triggered
- **BLEND** between **SPLIT and BROADBAND modes**
- Optionally **target only the MID or SIDE signals**
- **Accentuate** or **reduce the intensity of the de-esser** using the AMOUNT parameter
- **Revitalise and rejuvenate de-essed signals** using the BRIGHTEN
- Switch in a **LOOKAHEAD** or use **OVERSAMPLING** to **increase responsiveness and accuracy** of the de-essing algorithm
- Set the **relative THRESHOLD** and see its effects using the **COMPRESSOR graph**
- **Multi-shade waveform visualiser** shows three levels of shading – bright, medium and off – to indicate highly de-essed, slightly de-essed and untouched signals respectively, despite using a relative threshold!
- Try turning down the signal earlier in your mix chain, and **notice how DeEss maintains its response**
- Easily audition the sidechain filters or effected signal by clicking the 'FILTERS' and 'COMPRESSOR' audition labels
- Use **AUTO LISTEN** to **automatically switch in the FILTER or COMPRESSOR audition** when changing related parameters

- **3rd order Butterworth filters** that are chosen to be sharp but allow for transparent de-essing
- Output metering with high-level and clipping warnings
- Instantaneous gain reduction metering
- Built-in **help system**
- Several **carefully designed presets** for each vocal type, as well as for instruments – de-essing isn't just for sibilance

Supported Platforms and Hosts

When we release an SSL plug-in, we test it on all Windows and macOS operating systems that aren't End-of-Life (EOL) at the time of release.

The versions listed below are the latest on which we have officially tested the the product.

It is possible for our products to work on platforms outside of this list. However, if your host, host version or operating system is not listed here, we recommend you demo the product before purchase to confirm that it works correctly.

Unless specified otherwise, our plug-ins do not yet have native support M1 machines running macOS. It is possible to run the Intel macOS builds of our plug-ins inside of Rosetta 2 in the majority of hosts. We are currently working to develop and test Universal Binaries for all of our plug-ins.

macOS M1/ARM Support

DeEss does not yet natively support M1. However, it has been tested inside of Rosetta 2 and will work with any DAWs that support running Intel plug-ins inside of Rosetta 2.

Operating Systems

macOS	Monterey (12), Big Sur (11), Catalina (10.15)
Windows	11, 10

Hosts

- Logic Pro 10
- Pro Tools 2020
- Ableton Live 10
- Studio One 5
- Cubase 11

Demo

To demo this plug-in, you can download it from the product page and run it up in your host - the PACE wrapper will guide you through the process.

Installation and Download

You can download installers for a plug-in from the <u>website's Download page</u>, or by visiting a plug-in product page via the <u>Web Store</u>.

All SSL plug-ins are supplied in VST, VST3, AU (macOS only) and AAX (Pro Tools) formats.

The installers provided (macOS Intel .dmg and Windows .exe) copy the plug-in binaries to the common VST, VST3, AU and AAX directories. After this, the host DAW should recognise the plug-in automatically in most cases.

Simply run the installer and you should be good to go. You can find more information about how to authorise your plug-ins below.

Licensing

Visit the <u>online plug-ins FAQ</u> for guidance in authorising your SSL plug-in.

Setting Values

All numerical controls can be dragged to change the value, including all of the circular controls, numerical inputs and the BLEND slider.

Double-click any of the numerical controls to directly type in a value. In the case of the the seven-segment displays, you can also use the arrow buttons to increment/decrement the value.

FINE control (hold ⌘/ALT)

Hold ⌘/ALT while dragging a control to enter 'FINE' control mode. This causes all interactions with numerical input to have finer control - including the increment/decrement buttons!
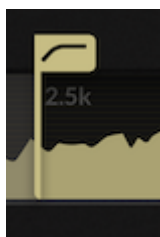
You can also change the filter cutoffs by dragging the handles directly on the filter graph.
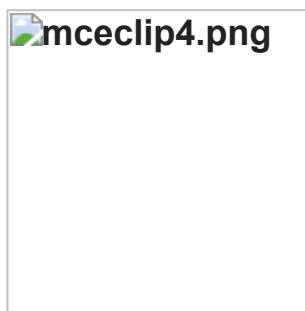
I/O

Bypass

Switch out to bypass all plug-in processing. In some supported DAWs, this bypass is linked to the DAW bypass.

Output metering

The output meter shows the instantaneous value of the signal. If the signal is very loud or is clipping, this is indicated by a red segment at the top of the metering.
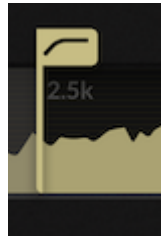
Filters

mceclip4.png

The filters section is used to limit the frequency content of the sidechain that triggers the de-esser. This is sometimes referred to as the 'detector'.

Filtering the signal can be used to ensure that de-essing effect only kicks in when undesirable frequency content is present.

Setting the filter cut-off frequencies

The sidechain filters can be used to remove low or high frequency content from the signal that is triggering the de-esser.

You can set the frequency cutoffs for the high-pass (HP) and low-pass (LP) filter by dragging the flags directly on the graph, by dragging the numerical input, or by double-clicking and entering a value directly.

Bypass the Sidechain Filters

The high- and low-pass filters can be completely bypassed by clicking the 'HP' and 'LP' labels.

Audition the Sidechain Signal

Click the 'FILTERS' label above the graph (includes a headphone symbol) to audition the filtered sidechain signal. This is useful when setting the cutoffs, to hone in on sibilant or undesirable frequencies.

Basic Compressor Settings

The compressor section has two main controls that control the overall response of the de-esser. The are the THRESHOLD parameter, and the AMOUNT parameter.

What is a 'Relative' Threshold?

DeEss uses a 'relative' threshold. Unlike classic de-essers, the threshold is set relative to the loudness of the signal rather than being an absolute value, above which de-essing kicks in. What this means in practice, is that de-essing will occur no matter how loud or quiet the signal is.

Not only does this mean that de-essing will be applied to softer passages just as effectively as louder passages, but also that increasing the level of the signal earlier in the chain is much less likely to have a destructive effect on your carefully-crafted DeEss settings.

For example, if you were to simply increase the gain of the signal prior to DeEss, then the overall response the response of the DeEsser will remain the same.

Setting the Threshold

You can set the threshold by dragging the 'THRESHOLD' control, or adding a value directly.

Note that because the threshold is not an absolute value and is relative to the signal, it not plotted as an absolute value (i.e. a line) on the compression history graph.

Compression History Graph

The compression history graph plots the input signal (pre-filter) and highlights parts of the signal that are being compressed.

- Bright yellow = heavy de-essing: 6 dB or more of gain reduction is being applied
- Dim yellow = light de-essing: less that 6 dB or more of gain reduction is being applied
- Grey = no de-essing no gain reduction is being applied, and the signal is untouched

We find that the waveform visualisation is useful for identifying 'events' in the signal that are often hard to observe in a frequency plot, but most commonly these waveform graphs are found only in 'absolute threshold' de-essers.

Setting the Amount of De-Essing
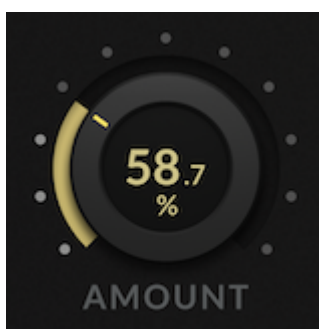
The 'AMOUNT' parameter controls the intensity of the de-essing effect, including the maximum gain reduction applied.

Auditioning The De-Esser

Click the 'COMPRESSOR' label above the compressor graph (includes a headphone symbol) to audition the difference between the pre- and post-compressed signal.

This is particularly useful when changing the THRESHOLD, MODE, AMOUNT and LOOKAHEAD controls to more clearly hear how these settings effects the ballistics of the de-esser, and what you're actually removing from the signal.

Advanced Compressor Settings

Blend
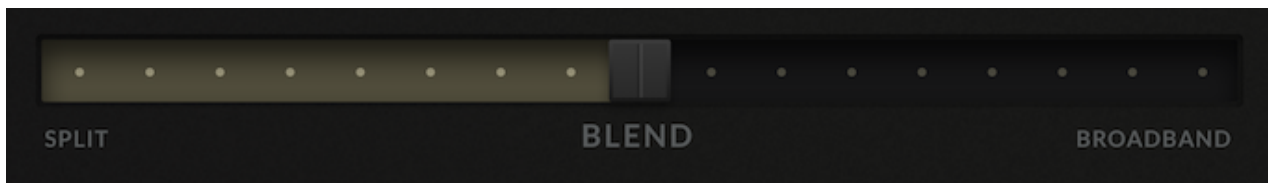
There are sidechaining modes that de-esser typically expose:

- SPLIT: attenuation is only applied to the frequency band defined in the FILTERS section
- BROADBAND: attenuation is applied equally across all frequencies

The blend control can be used to blend between these modes i.e. 100% split processing, 50-50% split/broadband, and 100% broadband.

The maximum gain reduction range of each of the SPLIT and BROADBAND modes have been fixed to provide the most transparent results. For example, the maximum gain reduction range of BROADBAND mode is less extreme than in SPLIT mode, since in BROADBAND mode, the ducking effect across the entire signal is generally more obvious.

Brighten

The brighten control is inspired by a common mixing workflow that is often used in conjunction with de-essing: accentuating the high-frequencies in conjunction with de-essing to avoid the signal from becoming 'dull'.

The brighten control has been designed with this in mind, and provides a method to easily 'rejuvenate' your signal after heavy de-essing, without having to reach for another plug-in.
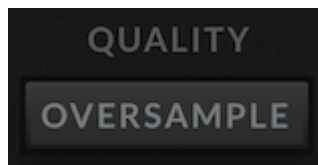
This essentially limits the transients of the signal in the filtered range, and then boosts the entire signal above the high-pass frequency cut-off.

Lookahead

Setting a lookahead allows the de-esser to react to sibilant events slightly ahead of when they occur. Turning the LOOKAHEAD on will introduce latency to the plug-in!
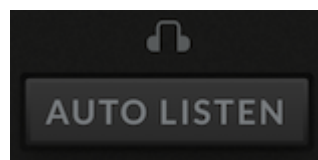
Oversampling

Oversampling can be turned on to reduce aliasing introduced by compression, and improve quality.

The oversampling applied is automatic, depending on your sample rate. If less than 88.2 kHz, then 4x oversampling will be applied. 48 kHz will be upsampled to 192 kHz.

AUTO LISTEN

When AUTO LISTEN is enabled, the signal will automatically be auditioned when changing key parameters, to aid workflow.

- When changing parameters related to the filter section (the HIGH-PASS FREQUENCY or LOW-PASS FREQUENCY controls) then the FILTERS section will automatically be auditioned while you are 'touching' these parameters
- When changing parameters related to the compressor ballistics and response (the AMOUNT or THRESHOLD controls) then the COMPRESSOR section will automatically be auditioned while you are 'touching' these parameters

As soon as you release the control, auditioning will turn off. This allows you to focus in on the changes you are making, and then immediately hear them in the context as soon as you release the control.

Clicking the individual auditions for either section manually turns off AUTO LISTEN.
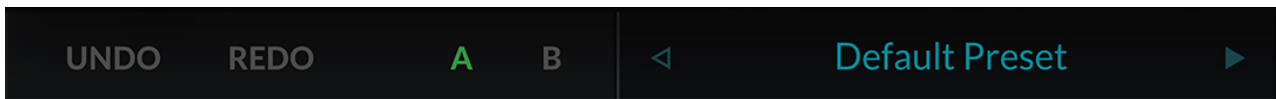
Presets

DeEss ships with several plug-ins to aid your workflow, including several carefully designed presets for different vocal types (Alto, Soprano, Tenor) as well as some presets designed for instruments.

Factory presets are included in the plug-in installation, installed in the following locations:

macOS: /Library/Application Support/Solid State Logic/PlugIns/Presets/[Plug-in Name]

Windows: C:\ProgramData\Solid State Logic\PlugIns\Presets\[Plug-in Name]

| UNDO | REDO | A | B | ◁ | Default Preset | ▶ |

Switching between presets can be achieved by clicking the left/right arrows in the preset management section of the plug-in GUI, and by clicking on the preset name which will open the preset management display.

The Preset Management menu reflects the folder structure of the preset folder.

Load, Save and Save As...

Load opens a file dialog to load a preset from anywhere.

Save overwrites changes to the current preset. Factory presets are read-only, and can't be overwritten.

Save As... opens the file dialog to save a new preset.

Save as Default

Sets the current preset to load by default when the plug-in is instantiated.

Revert Changes and Delete

Revert Changes discards any changes to the current preset.

Delete removes the current preset from the filesystem. Factory and Producer presets cannot be deleted from the plug-in GUI, although they can be manually deleted using the filesystem (Windows Explorer or Finder).

A/B and Copy

A/B allows you to toggle quickly between two presets. This is useful for comparing between two parameter settings.

**COPY X TO Y** is used to copy presets between A/B.

UNDO/REDO

SSL plug-ins come with a built-in UNDO/REDO stack, in case your DAW doesn't handle this.

UNDO undoes the current action in the history stack. **REDO** re-does the next action in the history stack.

Built-in help

This plug-in features built-in contextual help. To turn this feature on, click the '?' in the bottom right-hand corner. Mouse over elements of the GUI to see some information about the feature.
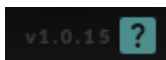
Click the tooltip to cycle through the pages.