

Lisp

A Level-Independent Sibilance Processor



Operation Manual

Created by:
Dustin Ralston
Sleepy-Time DSP

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Introduction:

Hello and thank you for downloading Lisp – A Level Independent Sibilance Processor by Sleepy-Time DSP!

Whether you use a traditional de-esser, side-chained compressor, dynamic EQ, or even edit your tracks manually, cleaning up sibilance problems in your vocals can get pretty tedious. Lisp's goal is to speed up this process by not only detecting when a sibilant sound occurs, but also where it occurs in the frequency range automatically. Just turn up the reduction knob and let Lisp do the rest!

This download contains 32-bit and 64-bit versions in VST2 and VST3 formats for Microsoft® Windows® operating systems.

NOTE: Lisp is FREE software. If you have paid for Lisp, please contact the vendor immediately and demand a refund!

How It Works:

Lisp uses some common and simple techniques chained together in a unique way to accomplish its automatic de-essing process.

In the main processing chain, the audio is split into two bandpass filters: one is set to what is commonly known as the "Voice Band" and the other is created using the detected pitch of the voice band in real-time. These two bands are then run through a modified form of the transient detection code found in Sleepy-Time Records' "Transient" software. When a sibilant is found within the user-defined "Sibilant Range," the second bandpass filter is inverted and added to the unaltered input audio to cancel out troublesome "ess" sounds with minimal artifacts. This somewhat simple process allows for very clean sibilance removal in real-time without using much CPU power.

Installation:

Lisp does not currently come with an automatic installer. Please use the following guide to get Lisp up and running on your system:

1. Close your DAW or VST Host.
2. Open the STDSP_Lisp_v1.zip file.
3. Open the folder for the format you are testing (VST2 or VST3)
4. Open the folder for the type of CPU you have (x86=32-bit, x64=64-bit)
5. **VST2:** Copy the .dll file and paste it into the same folder as your other VST plugins.
VST3: Copy the .vst file and paste it into either "C:\Program Files\Common Files\VST3" or "C:\Program Files (x86)\Common Files\VST3" depending on the CPU you have and which version of Lisp you want to install.
6. Open your DAW or VST Host and scan for new plugins if needed.

Controls:

Lisp has two main methods of operation. "Auto" mode detects sibilant frequencies automatically, while "Manual" mode allows you to set a specific frequency you want to reduce. Both modes work regardless of the input level, without the need for a threshold setting.

We'll begin by describing the controls that are common to both modes and get to the auto and manual modes a little bit later.

Controls – The Basics:

Here is a brief overview of the basic controls available in Lisp.

Reduction: As the name implies, this knob controls the amount of volume reduction that should occur when a sibilant sound is detected. The range is from 0 to 20dB.

Attack & Release: Similar to the attack and release knobs found on a compressor, these allow you to control just how fast or slow the reduction effect takes place when a sibilant occurs (attack) and after a sibilant has passed (release.) These controls are defined in milliseconds (ms)

Listen: Often times while setting up a de-esser, you'll want to hear what is being removed from the signal. By turning on the "Listen" button, Lisp's output changes to reflect exactly that. Instead of hearing the processed signal with a reduced "ess," you'll hear what Lisp is currently removing.

Sensitivity: As mentioned earlier, Lisp uses a form of transient detection to determine when a sibilant sound is passing through it. If you find that Lisp is a little over-reactive, you can turn this knob to the right to reduce its sensitivity. If you find Lisp is not picking up enough sibilant material, turning this knob to the left will increase its sensitivity. Normally, this control doesn't need to be adjusted. However, if you do need it, try using it with the "listen" button turned on to better hear what is being detected.

Special Note: The amount in the sensitivity control determines how much louder a sibilant should be compared to the original audio before it is considered for processing. For example, a setting of 2 would mean that Lisp will only process sibilants that are 2x louder (or 6dB louder) than the rest of the audio.

Q: This controls the Q parameter of the bandpass filter used in the detection and reduction of sibilant frequencies in your audio. A higher Q value will help Lisp detect and reduce very "sharp" sounding sibilants, while a lower value will help Lisp detect and reduce more "noisy" sounding sibilants.

Power: This is a simple bypass switch. By default, Lisp is turned "On" when it is first inserted. When Lisp is turned off using this switch, all audio processing will be bypassed and the reduction needle will drop past -20.

Reduction Meter: In order to better gauge when and how much reduction is happening to your audio, a standard VU meter is provided. This meter uses the same high-accuracy VU ballistics algorithm used in Sleepy-Time Records' MonoChannel/StereoChannel plugins.

Controls – Advanced:

Here is a brief overview of Lisp's more advanced controls. Some controls listed here are only accessible under certain circumstances.

Stereo Mode: These controls are only available when Lisp is inserted on a stereo track or bus. By default, Lisp will work on the Left and Right channels independently. Changing the “Stereo Mode” tells Lisp what part of the stereo signal should be processed. Included options are Left/Right, Left Only, Right Only, Mid/Side, Mid Only, and Side Only.

Processing Mode: As mentioned earlier, Lisp will automatically detect the frequency at which the current sibilant is occurring. This is called “Auto Mode.” Lisp can also be set to detect and remove a single frequency band like a traditional de-esser. This mode is called “Manual Mode.”

Auto-Mode Controls:

Sibilant Range: This set of controls define the range of frequencies that Lisp will scan for sibilant sounds. Only frequencies within this range will be reduced when a sibilant occurs in your audio. These controls are in kHz.

Hz Smooth: In Auto Mode, Lisp tracks the audio's pitch to detect the offending frequency in real-time. Of course, every sound is unique and the pitch of an “ess” sound can sometimes change rapidly. This may cause some strange artifacts during the de-essing process. Lisp allows you to adjust the timing of its pitch detection algorithm to help eliminate those artifacts. If you are hearing any obvious swooshing or crackling while sibilance is being reduced, try adjusting this control. Smaller numbers speed up the pitch detection, while larger numbers will slow it down. This control is in ms.

Manual-Mode Controls:

Frequency: When in Manual mode, you can set a single frequency for Lisp to detect and remove rather than having Lisp detect problem frequencies for you. This is defined in kHz.

Special Thanks:

The Lisp Beta Team, MusicDSP, g200kg, Microsoft®, and all supporters of Sleepy-Time Records and Sleepy-Time DSP.

Thank you!

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