Signal Perspective

TRAILBENDER 1.0

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Introduction

Trailbender is an advanced delay-based processor serving 3 goals:

- Helping students understand how some effects are realized;
- Letting sound designer design their own delay-based effects;
- Providing non-expert mix engineers with some simple but honest delay-based fx (available as presets).

Main features

The following features are distinctive of Trailbender:

- Many units of measure for the time parameter;
- Many modulation waveforms, including custom external signals (external sidechain must be enabled in the advanced settings);
- Many saturation “flavors”;
- Saturation and filters can be applied before the DDL, after the DDL or on the feedback loop;
- Dry-wet locking (useful when browsing presets);
- A mute button (more useful than bypass when the plugin is used in send);
- A “comments” space to take notes that are saved together with preset or plugin instance state.

Installation

The Windows version comes with an installer application that copies the presets and the plugin files in the correct folders. Under macOS you need to move the plugin files and the presets files and folders manually to the appropriate folder:

```
macOS VST3 folder:          ~/Library/Audio/Plug-Ins/VST3

macOS AU folder:            ~/Library/Audio/Plug-Ins/Components

Windows VST3 folder:        C:\Program Files\Common Files\VST3

Presets folder:             User Documents Folder/Signal Perspective/Trailbender
```

Please note that the plugin is not digitally signed: if you have trouble running the plugin under macOS, try typing the following in the OS terminal:

```
sudo xattr -d -r com.apple.quarantine /Library/Audio/Plug-Ins/VST3/Trailbender.vst3

sudo xattr -d -r com.apple.quarantine /Library/Audio/Plug-Ins/Components/Trailbender.component
```

The standalone application is portable, meaning that you can bring the executable wherever you want.

Signal Perspective toolbar

Most Signal Perspective plugins share a toolbar that lets you navigate presets and handle some common features, such as a tooltip system that lets you learn how to use the plugin without the need for a manual.

1. Undo button
2. Redo button
3. Preset name
4. Panic button (if present)
5. Preset menu
6. Load previous preset
7. Load next preset
8. Load specific preset file
9. Save preset file
10. Open this manual
11. Tooltip area / Editable preset comment
12. Zoom factor (reset to 100% if clicked)
13. Resizing handle

➤ Note about resizing:

Each time the plugin is resized it saves the current scale in a file so that new instances can already be scaled as desired. If you inadvertently get the plugin larger than the screen size (and therefore you can no longer resize the window) you can force it to open to 100% by deleting the settings file, which under Windows is:

```
%APPDATA%\Trailbender\Trailbender.settings
```

and under macOS:

```
~/Library/Application Support/Trailbender.settings
```

➤ Note about preset files:

In order to let the plugin/application see the preset files and show them in the preset menu, be sure to place them in the **user documents folder** under the `/Signal Perspective/Trailbender` subfolder, without altering the provided tree structure. The drop-down menu shows all the folders present as submenus, populated by the XML files contained in them. No further subdirectories are shown (i.e. there is no recursive search). The drop-down menu is repopulated after each preset saving and loading operation, and upon reopening the interface.

➤ Note about preset names:

The preset name is stored inside the preset file and is set to be the same as the file name when saving a preset, but if you rename the file, the actual preset name will remain unchanged.

Using Trailbender

Trailbender is a multipurpose plugin that allows you to create almost all of the effects implemented by reading medium-sized buffers: delay, modulation effects, pitch shift, stutter, overlap and add, pseudo-stereo, resonators, Karplus-Strong synthesis, and combination of all of the above.

The plugin is meant to: save (a plugin that does multiple effects), combine (create new hybrids between known effects), create (invent new effects), and teach (show how traditional effects are implemented by reading buffers with different criteria).

The plugin is organized into 4 sections:

1. **Delay time**: From here it is possible to define the buffer read offset, the unit of measure, the speed of movement of the read head during delay time changes, and any differences between channels (in terms of delay time or signal panning);
2. **Modulation**: From here it is possible to dynamically vary the position of the reading head, allowing the implementation of the aforementioned types of effects;
3. **Feedback**: From here it is possible to define the amount of feedback, the filtering of the signal, the presence of non-linearities, and the processing position (pre, post, or in the feedback loop);
4. **Mixer**: From here it is possible to define the ratio between direct and processed signal, as well as the application of further post-processing after the main processing (stereo control, gain, ducking);

There is also a processor fine-tuning screen visible by clicking on the top right of the delay time display.

Other details about each parameter are available as tooltips in the plugin.

The Graphical User Interface

Since Trailbender has many parameters, I tried to help the user by “lighting up” only those knobs that are affecting the sound. Moreover, the blue color is used for those parameters affecting the stereo image.

The interface is designed to give the expert user the possibility to customize every aspect of the processor, while the less expert user can simply load the desired effect using the "preset" menu and change the parameters considering only the "enlightened" ones, ignoring the others.

The display that shows the delay time also indicates whether the signal in the buffer is transposed because it is read at a speed different from the speed with which it is written (a condition that occurs if the delay time is modulated with the LFO or by hand). There is also an indicator that tells whether the playback of what was stored is "forward" or "reverse" (i.e. the read head of the buffer may move backwards because the delay time is increasing very quickly).

Finally, there are LEDs showing the LFO signal and the output level (the latter turns red in case of clipping).

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Disclaimer

This software was developed for non-commercial purposes by Giorgio Presti, we decline responsibility for any malfunctions that may cause loss of data or other inconveniences.

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