

Inear Display Interstice

User Guide

Version 1.0



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Introduction

Thank you for using Interstice.

To get the most out of it, please take some time to read this manual.

Interstice is a dual band delay plugin that aims to facilitate the creation of otherworldly echoes and resonances. It splits the input signal into low and high frequencies using a resonant filter to add extra harmonics to the sound. Each band then goes through a delay with a complex feedback path consisting of a diffusion network and a damping filter. A pitch-shifter can optionally process the signal pre or post delay to create complex overtones. A drift modulator can also impact key parameters of the circuit.

Interstice was designed with dense and psychedelic ambient sounds in mind, to turn a simple synthesizer note or a short sample into a cascade of esoteric tones, but it also shines as a resonator on top of more rhythmically complex signals. Its apparent simplicity and straightforward workflow hides an extensive palette of creative possibilities, as demonstrated by the factory presets that include a bank specially crafted by acclaimed sound designer [Ivo Ivanov](#). Last but not least, more surprising results are just a click away with the built-in parameter randomizer.

Installation and First Launch

To use Interstice, you need a VST3 or Audio Unit host such as Ableton Live, Logic Pro, Cubase, Bitwig, Reaper, FL Studio, Renoise, etc...

- **macOS:** The installer will automatically place the AU and VST3 files in the appropriate folders.
- **Windows:** The installer will automatically place the VST3 in the appropriate folder.

Once you have installed the plugin, open your host and you will find Interstice in the effect plugins list.

➤ Interstice is only available as a 64 bit plugin.

➤ Interstice is a stereo-only plugin. It may not appear in the plugins list in some hosts if the selected track is a mono one.

➤ On macOS, if your preset folder is empty after the installation or if you cannot save presets, please refer to [this FAQ](#) to fix the permissions.

Walkthrough

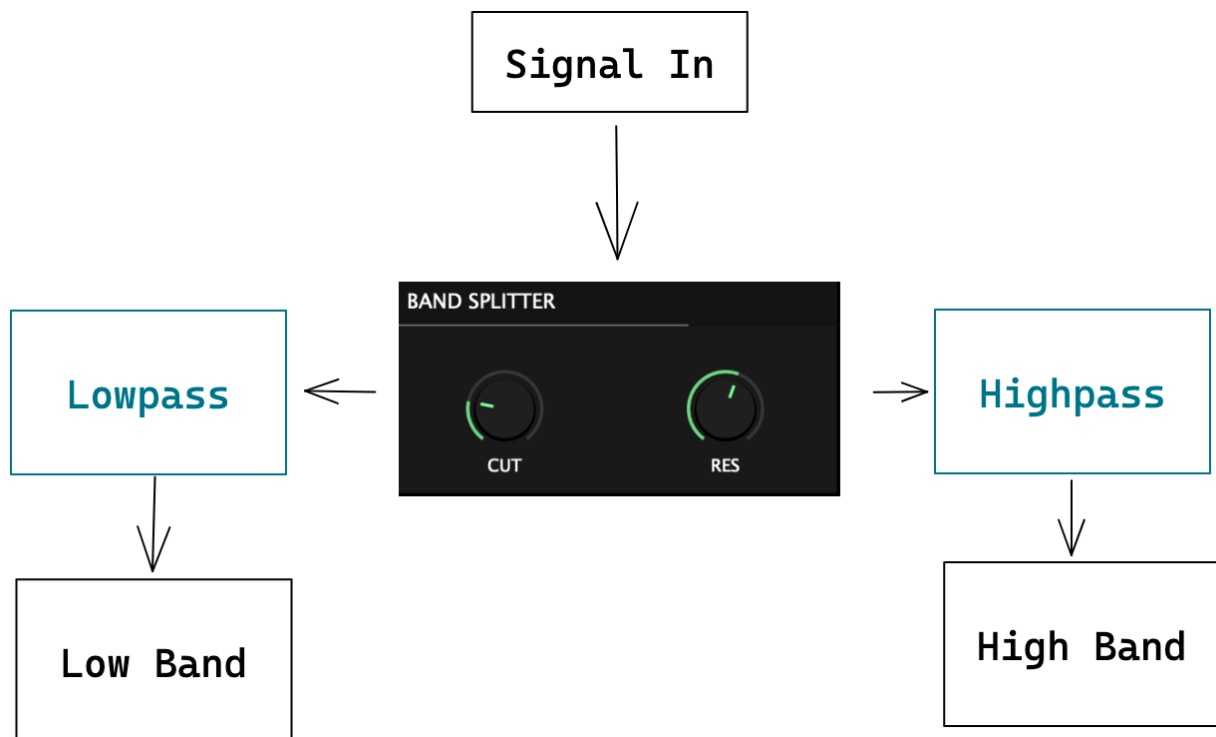
To get started, instantiate Interstice as an insert effect on either an audio track or an instrument track in your plugin host. The easiest way to follow along with this guide would be to have a simple looping section of audio to experiment with:

- If you are using an instrument track, make a loop with a pattern containing a few notes.
- If you are using an audio track, put an audio loop on the track.

Turn on playback looping in your host and you can now try to experiment with the plugin functions as we go through them.

Band Splitter Module

Located at the top center of the plugin panel, the band splitter module is the one through which the input signal will go first. This module takes the input and splits it into two frequency bands : low and high. The **CUT** and **RES** knobs control the filter settings for both the lowpass filter and the highpass one.



The **CUT** knob is the most critical control of Interstice: you will need to adjust it to fit your source material. Small tweaks around key frequencies can lead to drastic changes in the plugin output. Even when using the factory presets, it is a good idea to try to adjust this control.

Turning the **RES** parameter clockwise will result in the addition of overtones to the sound which will also vastly impact the rest of the signal chain.

Do not hesitate to tweak these two knobs as they have a major impact on the overall sound.

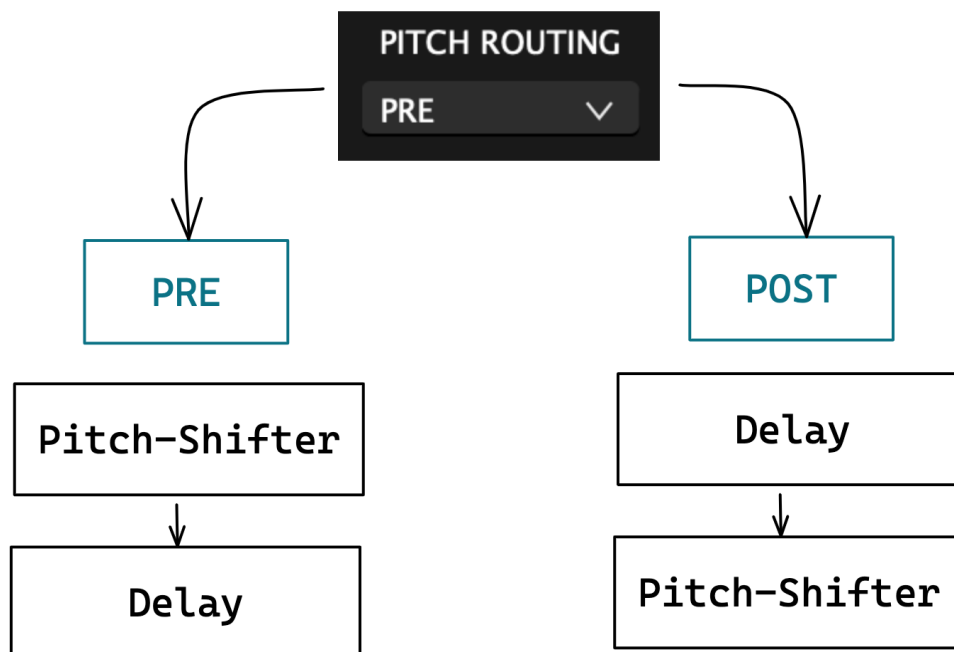
Automating or modulating the **CUT** parameter around key frequencies of the input will also yield very interesting results.

- When you drag a knob, a small popup appears next to it with the current value of the parameter.
- Double-click on the knob to reset it to its default value.

Low and High Bands

➤ The two bands behave the same but have independent controls. The only exceptions are the **DELAY TYPE**, **PITCH ROUTING**, **DIFFUSION** and **DRIFT** controls, located in the **GLOBAL** module, which are common to both bands.

The routing inside each band is determined by a common **PITCH ROUTING** setting:

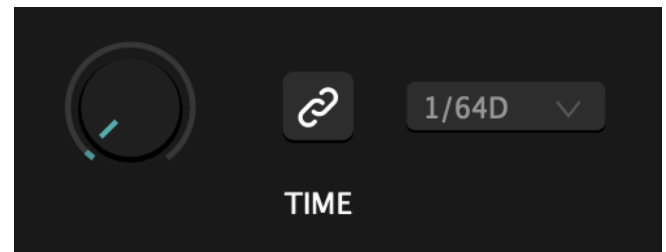


The pitch-shifter has two dedicated controls for each band:

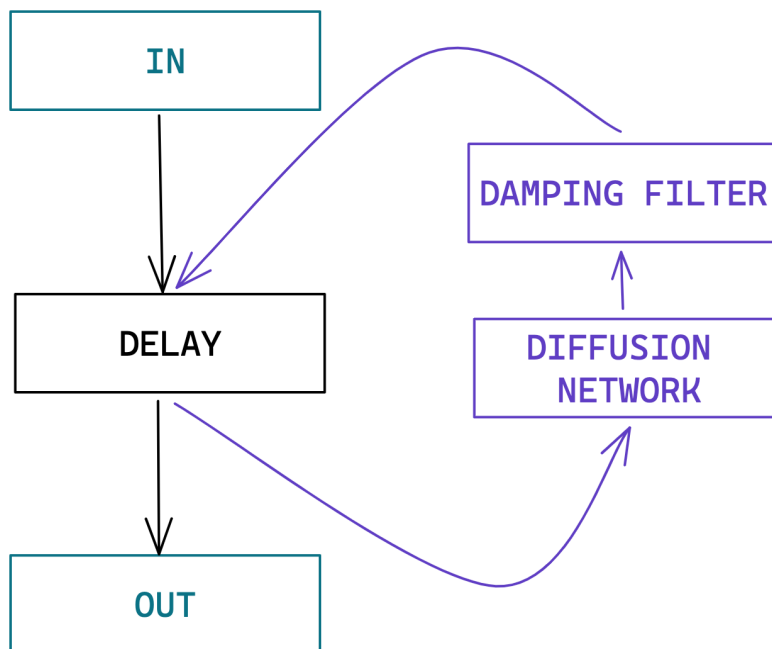
- **SHIFT**: the amount of semitones to offset the signal by, positive or negative. This parameter can go from -24 to +24 semitones.
- **WINDOW**: To repitch the signal, the pitch-shifter needs to buffer a chunk of audio. This control adjusts the size of the buffer (in samples). Smaller values lead to a more natural output but introduce some comb filtering that will affect the timbre of the sound, while larger values sound closer to the original signal but introduce a granular quality to the output. This control displays a value but acts like a knob (drag your mouse while clicking to change the value).



The delay **TIME** can be adjusted either as milliseconds or as a relative division of the host tempo. You can toggle between these two modes by clicking on the link icon. The inactive mode control will be disabled and grayed out. In the configuration pictured here, the left knob adjusts the time in milliseconds, while the division menu on the right is disabled.



The **FEEDBACK** section of the delay is composed of a diffusion network (a cascade of allpass filters) and a damping filter. The feedback loop is pictured in purple in the diagram below:



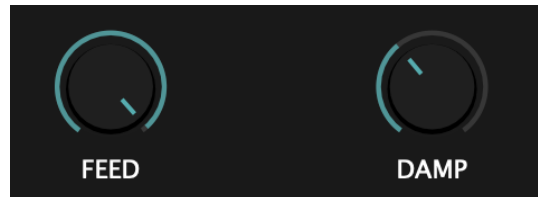
The **DIFFUSION** setting, located in the **GLOBAL** module, is common to both bands. When fully counter-clockwise, it has no impact on the sound. Turning the knob clockwise will progressively blur the echoes and give a reverb quality to the sound. It introduces some additional delay in the feedback loop as each allpass filter in the network introduces a small delay.



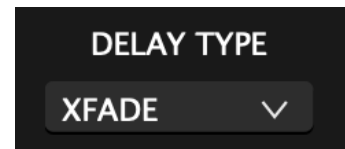
As this happens in the feedback loop, the effect of this parameter is tightly coupled to the amount of feedback which is set independently for each band by using the **FEED** knob.

You will usually want to tame the feedback by adjusting the **DAMP** knob which sets the cutoff frequency of a lowpass filter, making the echoes decay faster as you turn the knob counter-clockwise.

Note that this damping filter is active regardless of the **DIFFUSION** setting.



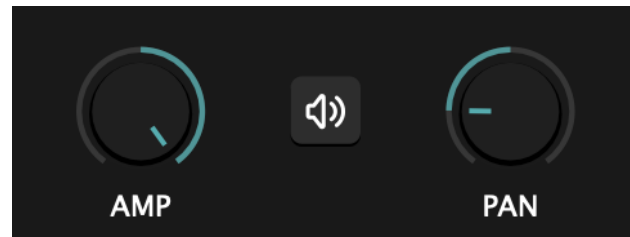
A setting common to both delays can be set via the **DELAY TYPE** menu in the **GLOBAL** module:



- **REPITCH**: when you change the delay time, the plugin interpolates between the old and the new value, resulting in classic pitch artifacts. The **DRIFT** function plays better with this mode when using a high modulation rate (but as with everything else when it comes to sound, this is a matter of taste and you may prefer the other mode in this situation...).
- **XFADE**: when you change the delay time, the plugin crossfades between two delay buffers to avoid these artifacts.

Each band has its own master section, located at the bottom of the module. You can **MUTE** a band by clicking the button with a speaker icon.

The **AMP** knob adjusts the band amplitude (in decibels), while the **PAN** knob allows you to position a band in the stereo field.

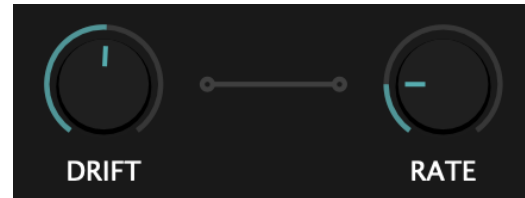


Global Module

We have already reviewed the top row of this module in the [Low and High Bands section](#) of this user guide.

In the second row are two parameters that control the **DRIFT** function, which is a chaotic modulation that is applied to some key parts of the signal path to add some unpredictability to the sound (detuning and timing imprecisions).

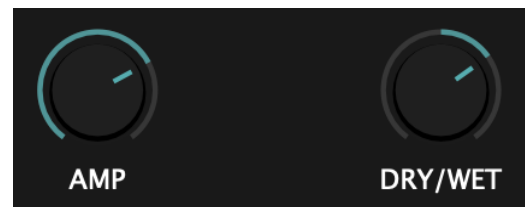
- **DRIFT**: controls the amount of modulation.
- **RATE**: controls the modulation rate (in Hertz).



➤ Some settings such as the **DELAY TYPE** can impact the sound in different ways when modulated.

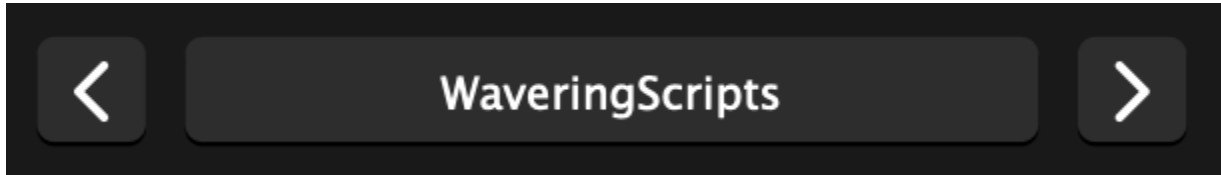
Finally, the two parameters at the bottom adjust the output of the plugin:

- **AMP**: controls the amplitude of the processed signal before it reaches the dry/wet mixer.
- **DRY/WET**: controls the mix of the input signal of the plugin and the signal processed by the low and high bands. When turned fully counterclockwise, it will only let the input signal pass through, while turned fully clockwise, it will only let the processed signal pass through. Any values in between blend the two signals together.



Footer

The footer of the plugin panel regroups several utility functions, the most noticeable being the preset controls:



The large button in the middle displays the current preset name. Clicking on this button will reveal a popup menu.

- At the top of this menu, the [SAVE PRESET...](#) option will open a file picker in the Interstice presets folder. Type in a preset name and save the file to keep a copy of the current settings on disk. If you want this preset to be available in the menu, you need to save it to the preset folder where the file picker opened. You can save it to a subfolder if you want it to appear in a preset bank in the menu (limitation: only the first level of subfolders will be searched for preset files).
- Below this option, the menu displays a list of all preset banks and individual preset files found in the preset folder. Each bank has its own submenu with its presets listed. This bank system allows you to sort your presets by the categories of your choosing. To load a preset, simply click on its name in the menu.
- Interstice comes with three factory preset banks:
 - [Echoes](#): presets illustrating the use of Interstice for echo/reverb effects.
 - [Ivo_Ivanov](#): an exclusive bank of presets from acclaimed sound designer [Ivo Ivanov](#), showcasing some clever sound design tricks.
 - [Resonances](#): presets illustrating the use of Interstice as a resonator. Try these on percussive sounds.

The navigation arrows on each side of this button let your cycle through all the presets referenced by the menu.

➤ [There is no one size fits all with Interstice, so, when using a preset, make sure to tweak the CUT knob to adjust the processing to the signal to which you are applying the plugin.](#)

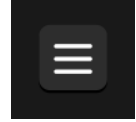
On the left side of the preset controls, clicking on the dice button will [randomize](#) the controls of the plugin (ignoring certain parameters like the output amplitude to get better results).

Use this function to generate starting points for new patches and experiment with unpredictable results.



Configuration Menu

Clicking the hamburger button on the right side of the preset controls will reveal the configuration menu which contains various useful global functions and options.



- **INIT ALL CONTROLS**: click on this option to set back all controls to their default values.
- **THEME**: this submenu contains seven different color themes for the plugin. Your choice is saved in a preferences file and reloaded on startup.
- **OPEN PRESETS FOLDER**: click on this option to reveal the presets folder in the Finder/Explorer. From there you can manage the preset files using your operating system functions.
- **SHOW PREFERENCES FILE**: click on this option to reveal the preferences file in the Finder/Explorer. While you may usually not need to use this function, it could be useful in some situations (fixing a value by hand or trashing the preferences for example).
- The last line of the configuration menu displays the version number of the plugin.

Resizing the Panel

The plugin panel can be resized by dragging the handle in the bottom right corner. The new size is saved in the preferences file and will be reloaded on startup.

Credits

- [Development and Graphics](#): Thomas Hennebert
- [Sound Design](#): [Ivo Ivanov](#) and Thomas Hennebert
- Special thanks to the beta testers.
- Proudly powered by [Faust](#)
 - Interstice uses Faust library code from:
 - GRAME
 - Julius O. Smith III
 - Oleg Nesterov