

# Doppler Pro

Version 1.1.0

## Owners Manual

Thank you for choosing DopplerPRO, the advanced doppler plugin designed for professional film and game sound designers as well as musicians. This manual is intended to guide you through the installation, setup, and use of DopplerPRO.

### DopplerPRO requires the following system requirements

- Windows 10 or macOS 10.13 or later
- A DAW (Digital Audio Workstation) that supports VST, VST3, AU, or AAX plugins
- A 64-bit CPU with a minimum of 4 cores
- A minimum of 8 GB of RAM
- A minimum screen resolution of 1280 x 768

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### **4. Thank you & Support**

# 1. Installation

After downloading, unzip the archive and launch the installer for DopplerPRO. The installer will guide you through the installation process, copying files into the common VST2.4, VST 3, AU, or Pro Tools plug-in folders on your computer. Your host should automatically recognize the plug-in upon the next restart. During installation, you will be prompted to register DopplerPRO with your iLok account.

## 1.1. Mac OS

On Mac OS X, you can find the standard plug-in folders in the system library folders. The paths are as follows:

**Audio Units (AU):** /Library/Audio/Plug-Ins/Components

**VST:** /Library/Audio/Plug-Ins/VST and /Library/Audio/Plug-Ins/VST3

**AAX:** /Library/Application Support/Avid/Audio/Plug-Ins

## 1.2. Windows

On Windows, you can find the standard plug-in folders in the system library folders. The paths are as follows:

**VST:** C:\Program Files\VSTPlugins

**AAX:** C:\Program Files\Common Files\Avid\Audio\Plug-Ins

If your host does not recognize the plug-in, you may need to manually copy it to the host-specific plug-in path.

## 1.3. iLOK Registration

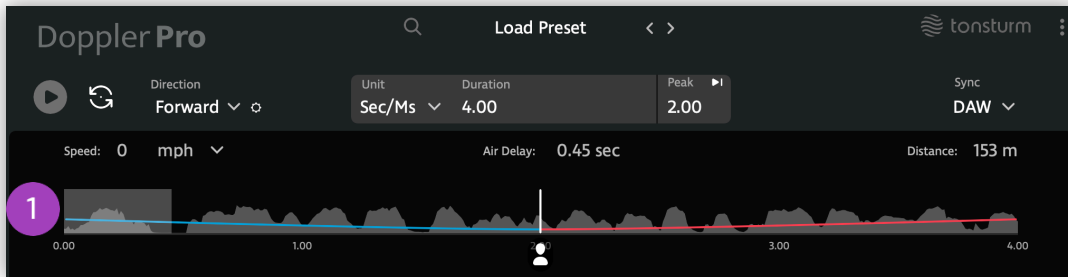
The Authorization Wizard will open if DopplerPRO has not yet been authorized when you insert the plug-in or when it is scanned by your host application. You need to have an iLok account in order to use DopplerPRO. Setting up an iLok account is free and easy. For more information, please visit [www.ilok.com](http://www.ilok.com). Choose whether to activate the plug-in to your computer or to an iLok 2 or later. Please note that first-generation iLoks are not supported.

After your purchase from TONSTURM, you will receive an email from us containing the download link for the installer and an iLok activation code (e.g., XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XXXX-XX). Download the iLok Manager from [www.ilok.com](http://www.ilok.com), then choose ACTIVATE. You will be presented with the activation window, where you may enter your code. Copy and paste the entire code into the entry form, and select your activation location: your computer or your iLok.

## 2.0 DopplerPRO Introduction

### 2.1. What is new in DopplerPRO V.1.1.0

#### - Air Delay Visualization:



1.) This feature allows you to visually monitor the delay time of air movement, providing crucial insight into the silence before your audio event kicks in at higher speeds.

#### - Audio Gate Trigger:



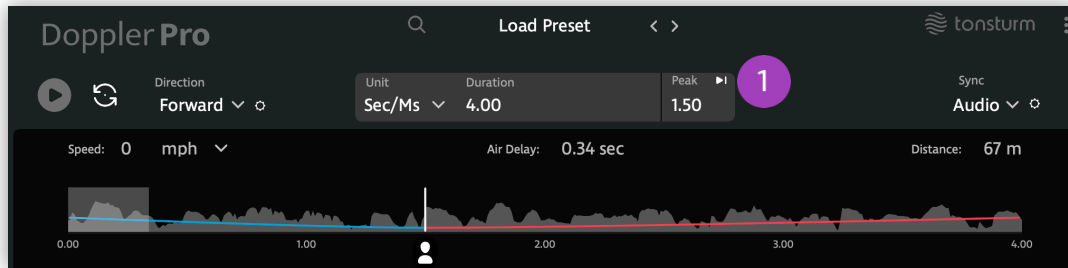
1.) Now, you have the ability to control when Doppler PRO starts and stops, simply based on the incoming audio signals

#### - Infinite processing (one shot mode):

If loop is disabled DopplerPRO continues to process the Doppler path even beyond the set duration time, offering flexibility when working without exact duration times.

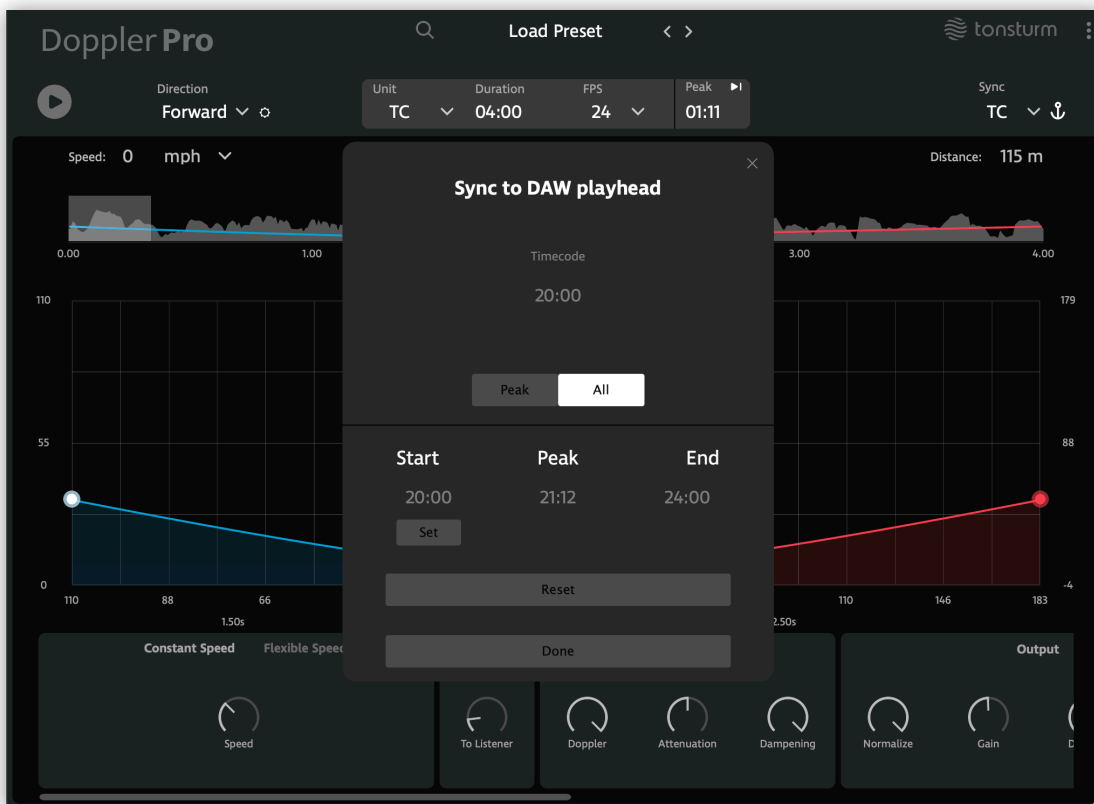


## - Snap Doppler Peak to Sample Peak:



With a simple click on the little arrow, adjust the doppler peak to align with the loudest part of your buffered audio.

## - Manual TC Sync



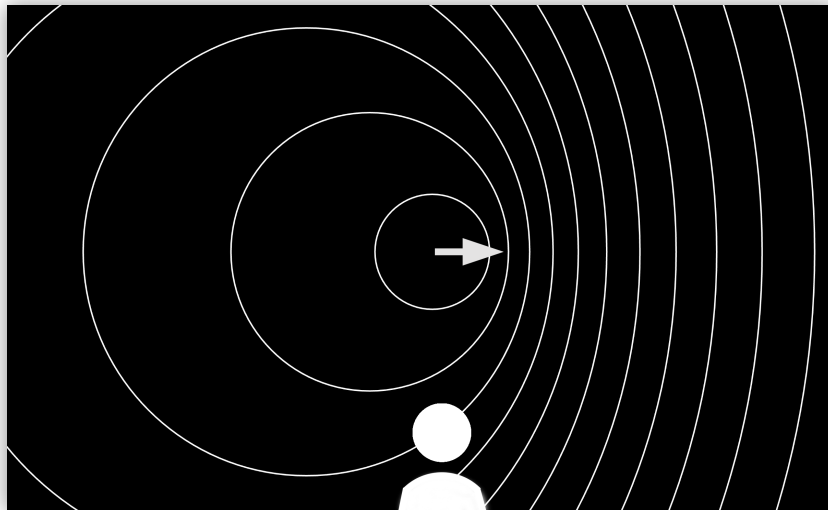
Manual TC Sync, a feature enabling you to manually synchronize the start, peak, and end phases of the Doppler path to your DAW's timecode values, ensuring precise synchronization of DopplerPRO in any DAW.

## - Minor feature upgrades:

We've also rolled out minor updates including adjustable gain for Ground Floor Phasing, added support for backward playback direction, and an overall Dry Wet control. Have fun exploring the new features!

## 2.2. What is DopplerPRO

Before we dive into the details of DopplerPRO, let's first take a moment to appreciate the power and beauty of the doppler effect. This phenomenon is what allows us to perceive changes in pitch as objects move towards or away from us. The doppler effect is a phenomenon where the frequency of a wave appears to change when the source of the wave is moving relative to an observer. This can be seen in the propagation of sound waves through air. When a sound source is moving towards an observer, the frequency of the sound waves increases, causing the sound to appear higher-pitched. Conversely, when the sound source is moving away from the observer, the frequency decreases, causing the sound to appear lower-pitched.



With DopplerPRO, you now have the ability to harness this power and creativity in your own hands, allowing you to easily and precisely craft realistic doppler effects for your projects. Let's explore the capabilities of this state-of-the-art plugin and see what kind of sonic magic we can create.

DopplerPRO is a state-of-the-art plugin designed for professional film and game sound designers as well as musicians. It features an advanced, highly accurate Doppler DSP engine that allows for precise and realistic doppler effects.

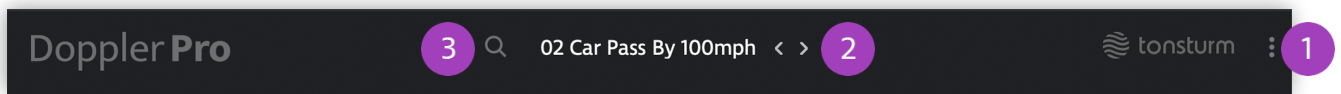


What sets DopplerPRO apart is its innovative approach to calculating individual space dimensions for the approach and away phases of the doppler path, DopplerPRO offers unparalleled control over the doppler peak moment and object speed, allowing for seamless and detailed speed transitions and precise alignment of the doppler peak. Additionally, the plugin's sophisticated dimension compensation ensures that the shape of the doppler path is always perfectly scaled along with the rest of the parameters.

For musicians, the duration of the doppler path can be set to BPM measures to sync with the tempo of your composition, and the doppler peak position can be scaled to the beat grid. Additionally, almost all parameters are modulatable in real-time, giving users the ability to create truly unique and dynamic doppler effects. Try to set the doppler duration to Hz mode and modulate it up to audio rate. With DopplerPRO, the possibilities are endless.

## 3. Explaining the UX elements:

### 3.1.The Top Header



#### 1.) Settings Menu:

- Tooltips: If active, resting your cursor on a parameter will show you a description (if there is one)
- Check for Updates: The Plug In will search for updates.
- Save: Saves the current patch at the designated folder and overwrites the currently selected patch.
- Save As: Saves the patch at the designated folder and does NOT overwrite the initial Patch

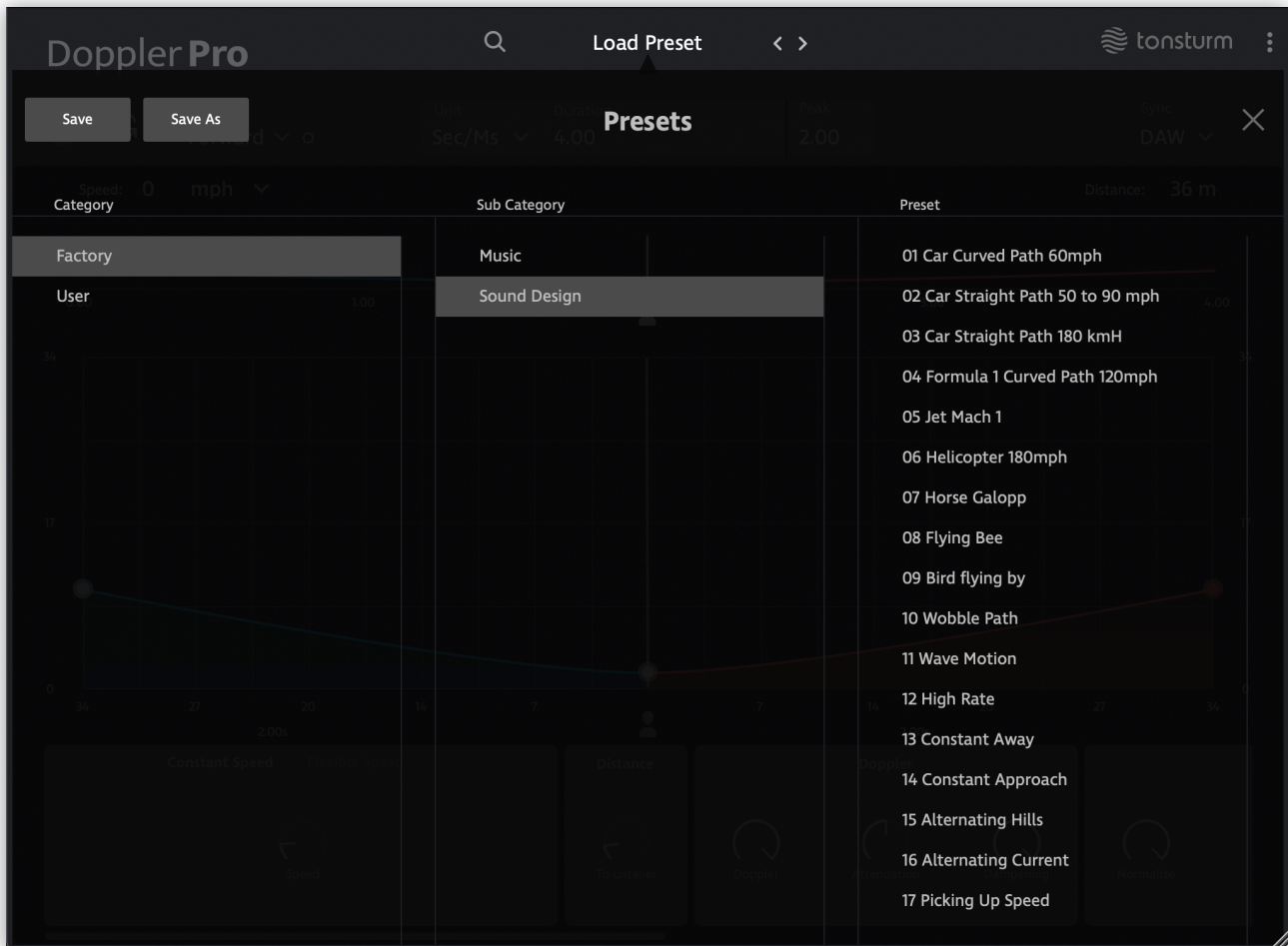
#### 2.) Navigating inside preset folder

#### 3.) Open close preset window

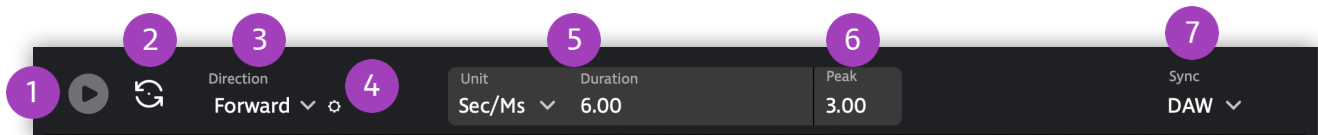
### 3.2. The Preset Window

In the Preset Window you are able to browse Factory and User presets by clicking on the tabs in the Category bar. The presets are divided into Sub Categories for your convenience. The right column displays the actual Presets of the selected folder or sub folder.

The Save and Save As Buttons on the top right corner allow you to save the existing patch to your preferred location.



### 3.3 Playback Control Section



1.) Play / Stop

2.) Loop / One-Shot

3.) Direction:

Forward:

The DopplerPro plugin offers two playback modes: forward and alternate. In forward mode, the doppler path is reinitiated after every cycle, resulting in a continuous repetition of the effect. However, depending on the speed setting, there may be a noticeable delay at the beginning of the path due to the accurate modeling of air delay. It's important for the user to be aware of this, as it affects the timing of sound events.

Alternate:

The alternate playback mode in DopplerPro is a powerful feature that allows the object to move back and forth along the path, resulting in a continuous sound after a potential initial air delay. This mode is particularly useful when modulating the duration and other parameters. It provides a smooth and uninterrupted sound throughout the playback and is perfect for ultra short duration experiments up to the rate of audio.

4.) Parameter Smooth:

The automation smoothing parameter in DopplerPro applies a smoothing effect to all parameters, reducing abrupt changes or glitches when using automation from your DAW.

5.) Duration Units:

The duration unit section in DopplerPro offers four units to choose from for precise control over the duration of the doppler effect: min/sec, TC, Hz, and bpm

6.) The peak parameter in DopplerPro allows for precise control over the timing of the doppler peak within the overall duration of the doppler path. For a straight line path this parameter sets the point at which the object is closest to the listener and the doppler effect has it's peak moment

7.) Sync mode:

DAW:

DopplerPro starts and stops with the DAW playback.

Toggle:

You can automate start and stop of Doppler PRO with the DAWs host automation.

Host automation parameter: Play Sync

### 3.4 Doppler Path



1.) With the duration module in DopplerPRO, you have complete control over the length of the doppler effect. Choose from seconds, timecode with various frame rates, Hz, or BPM mode, which can sync to your host's tempo. The BPM mode also includes a grid mode, which lets you set the peak position to exact beat measures. This level of precision ensures that your doppler effects are perfectly timed and synchronized with your music or sound design.

2.) The Peak parameter enables you to visually align the doppler effect's peak to the waveform of the incoming audio. This upper section of the plugin displays the scaled version of the doppler path, which visualizes the rescaling of the approach (blue) and away (red) phases that occurs when the Peak parameter is shifted away from the center position.

3.) Start break point of the doppler path.

4.) The center point of the doppler path is fixed to the x-axis in DopplerPRO to ensure that the individual space dimensions for the approach (blue) and away (red) phases are always perfectly aligned. This ensures that the user has unparalleled control over the doppler peak moment and object speed, allowing for seamless and detailed speed transitions and precise alignment of the doppler peak.

5.) End break point of the doppler path.

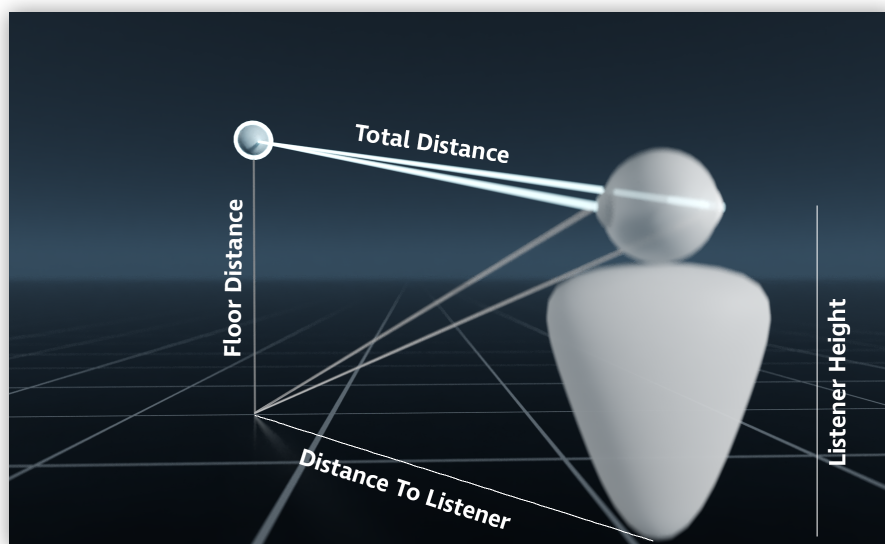
6.) By double clicking anywhere on the path you can enter additional path points to shape the curvature of the doppler path. When a sound source is moving towards a listener, the

frequency of the sound waves is compressed, resulting in a higher pitch. Conversely, when a sound source is moving away from a listener, the frequency of the sound waves is expanded, resulting in a lower pitch. A curved doppler path can accentuate or mitigate the effects of the doppler shift, depending on the shape of the curve. For example, a curved doppler path that gradually increases in curvature can result in a more gradual change in pitch, while a sharp curve can result in a sudden and pronounced change in pitch.

By manipulating the curvature of the doppler path, users can create a wide range of pitch effects that enhance the emotional impact of the sound. A gradual change in pitch creates a smooth motion that embeds into the scene. A sudden change creates a sense of speed, danger, or impact that alerts the listener. With DopplerPRO, you have the full flexibility.

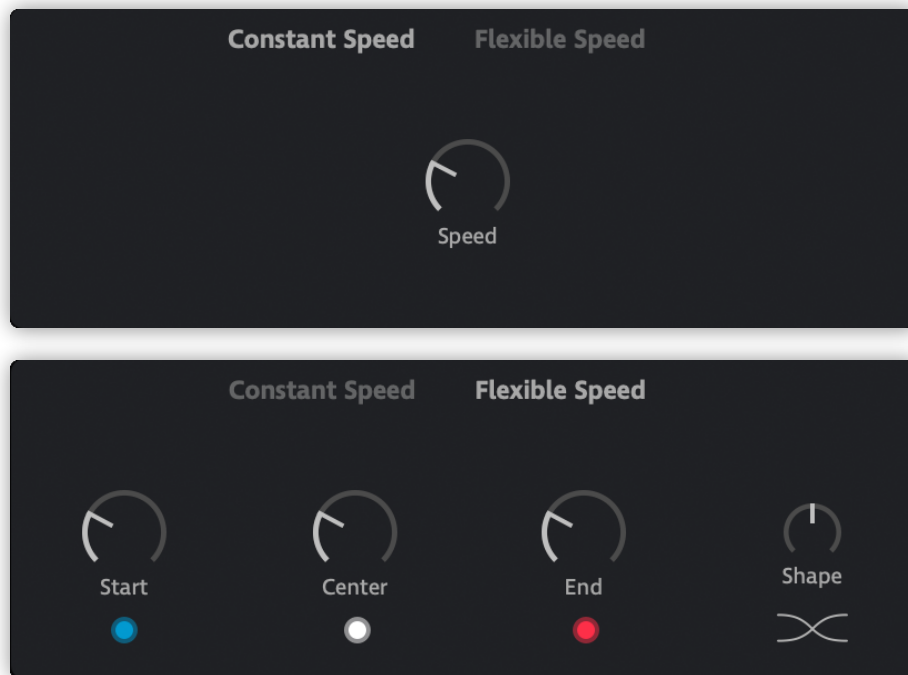
7.) The Speed indicator displays the current speed of the object throughout the doppler path, which can be especially useful when using the flexible speed mode, where the speed can vary.

8.) The „Total Distance“ indicator displays the current distance between the listener and the object throughout the doppler path. It is important to note that both the „Distance to Listener“ parameter, the „Floor Distance" parameter (found in the Floor Reflections section) and the "Listener Height" all three affect the „Total Distance“ between the object and the listener.





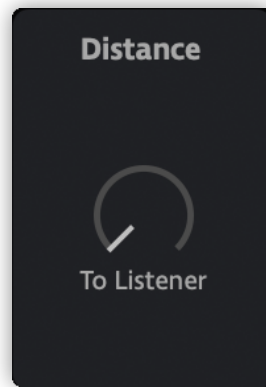
### 3.5 The DSP Parameter section



#### Speed:

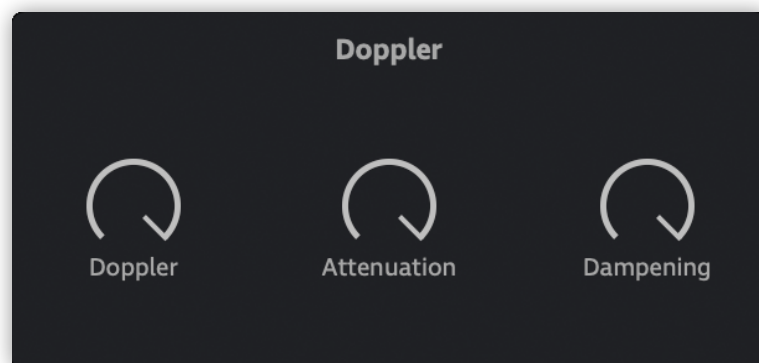
DopplerPRO offers two speed modes: constant and flexible. In constant speed mode, a single parameter defines the constant speed value throughout the doppler path. In flexible speed mode, users can set the start, center, and end speed values using three parameters. By default, DopplerPRO provides a linear speed transition between these three values, but users can also shape the speed transition between logarithmic, linear and exponential using the optional shape parameter.

Because DopplerPRO doesn't affect the position of the peak moment when altering the speed, users can fully focus on finding the perfect speed transition for their sound source. The flexible speed mode offers an unparalleled level of flexibility to shape and bend the speed ramp of the sound source while always maintaining the desired peak position.



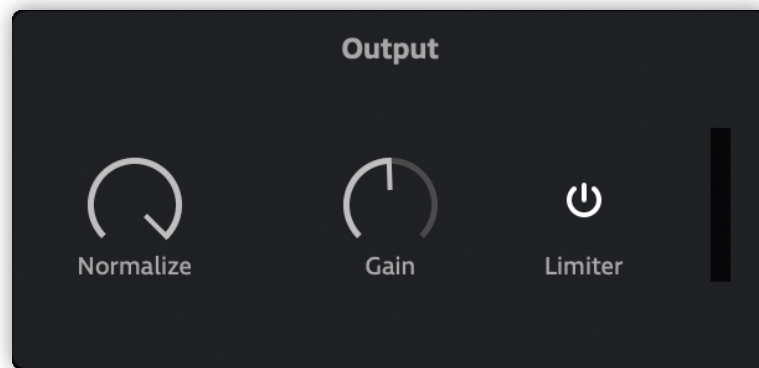
### **Distance from Peak:**

The parameter affects the steepness of the curves controlling the pitch, amplitude, dampening and panning of the sound source. Increasing the distance results in smoother and more gradual curves. Conversely, decreasing the distance leads to steeper and more abrupt curves.



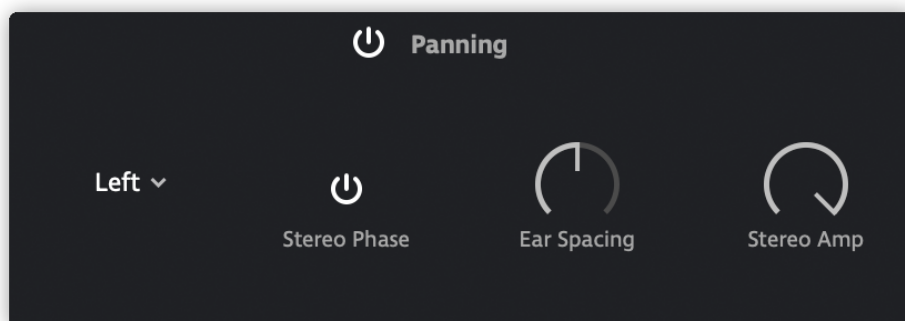
### **Doppler Amount:**

These are the amount knobs for Doppler (Pitch), Attenuation, and Dampening.



### Output:

The Normalize parameter determines the amount that the overall volume is normalized to, ensuring consistent output levels. The Gain parameter allows users to adjust the overall volume level. The Limiter switch enables an output stage limiter to prevent clipping and distortion, ensuring that the sound remains clean and clear.



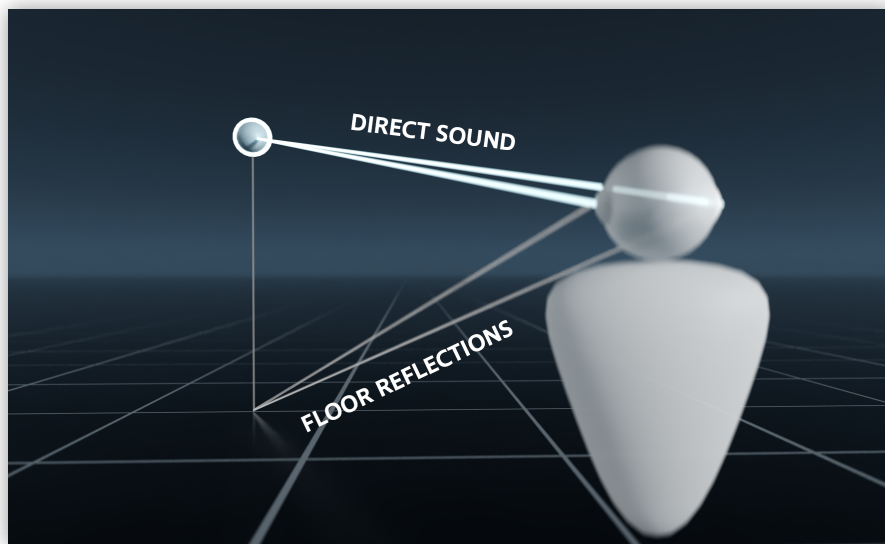
### Panning:

The Panning section allows users to enable or disable panning for stereo or mono processing. The Input Channel popup menu allows users to choose the input channel for stereo processing. The Stereo Phase switch enables binaural panning, which calculates the doppler effect based on the object's distance to each ear. The Ear Spacing and Stereo Amp parameters control the stereo image of the sound, allowing users to adjust the ear spacing and stereo amplitude for a more natural or dramatic effect.



### Floor Reflections:

The Floor Reflections switch enables or disables floor reflections, which simulate the effect of sound waves bouncing off the floor. The Floor Distance, Dampening, and Listener Height parameters control the distance between the object and the floor, the amount of dampening of the reflections, and the height of the listener's ears. Each reflection is calculated with an extra doppler instances in the DSP, guaranteeing a highly realistic auditory experience.



Thank you for reading through the DopplerPRO user manual. We hope that this guide has provided you with a comprehensive understanding of the plugin's installation, setup, and various features. With DopplerPRO, you have access to a state-of-the-art doppler plugin that allows for precise and realistic doppler effects, making it an essential tool for professional film and game sound designers as well as musicians. Experiment with the various parameters and modes to discover new and unique ways to enhance the emotional impact of your audio. If you have any further questions or concerns, please don't hesitate to contact our support team.

Happy sound designing!

