



Pulsar Primavera User Manual



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Introduction

This manual describes the features and operation of the Pulsar Primavera effect processor. To be sure you understand how to use your plugin and understand all its subtleties, please read it completely.

The information contained in this manual is believed to be correct at the time of publication. However, if an error has unfortunately crept into its contents, please let us know.

IMPORTANT: The prolonged use of amplified instruments, speakers or headphones may cause permanent hearing loss. Ensure you monitor your exposure level, and take regular breaks. In case of tinnitus or suspected hearing loss, please consult an ENT specialist.

Welcome

Our experience

Thank you for choosing Pulsar Audio quality!

With more than 15 years' experience in plugin development for the biggest names in the industry, we decided to create Pulsar Audio to push the quality requirements of our products even further.

For each product, our quest for excellence requires us never to rest on our technical achievements, and to expand our knowledge ever further.

Sound and science

With solid expertise in audio signal processing, but also in electronics, sound techniques and music practice, we take great care in modeling all the small details and imperfections of analog equipment that make the difference between a « mathematical » exact sounding algorithm and a rich, living and musical processing, and we produce this famous « 3rd dimension » sound so much sought after.

In addition, our close collaboration with music production professionals requires us to be rigorous in order to produce professional quality tools.

Our user interfaces

The user interface of a plugin is the link between the creative drive and the technical implementation; it must therefore be clear, intuitive, and as pleasant as possible to use. We take great care to create the most beautiful and fluid interfaces possible, with an emphasis on intuitiveness.

The search for the right equipment

Rarely do you find two analog machines that sound exactly the same. It is therefore important, when developing an emulation, to carefully choose the hardware units to be used as models. We only use units in perfect condition and measure them with the best recording equipment.

A final word

We hope you will enjoy this plugin as much as we enjoyed creating it. Be sure to visit our website www.pulsar.audio and find out about updates, new products, tips and other resources. There, you will also be able to contact us to ask for help or simply to tell us about your experience!

The Pulsar Team

Spring reverberation

Spring reverb is one of the oldest audio spatialization effects. It was introduced in Hammond organs with a patent registered in 1939, then popularized by electric guitar amplifiers from 1963 onwards. The effect has since become a classic vintage guitar sound, particularly in Surf music, and has been employed on many other instruments by Dub producers.

This effect is produced mechanically by placing transducers on each side of one or more springs. One of these transducers is used for excitation, propagating sound from one end of the spring. The second is placed at the other end and picks up the sound. Part of this signal is then re-routed to the input to produce several successive echoes. These rapid echoes, combined with the effects of diffusion and dispersion as the wave travels through the spring, create the reverberation.

The development of Primavera began with listening to numerous spring reverbs. During these sessions, we selected 6 reverb models that struck us by their sonorities as well as their complementarity. We decided to make these 6 effects available in a single plugin, so that users can choose the spring "color" best suited to their production.

Unlike many digital spring reverbs, we decided not to use the convolution technique, which cannot faithfully reproduce the non-linear behaviors that occur when springs are crossed. For each of the selected models, we have instead developed an algorithmic reverberation that reproduces the sound and "defects" of this electro-mechanical device with the utmost precision. This technology enables us to offer the user control over the Tension of the springs, as well as an Excitation setting, which we'll explain below. This gives the user unprecedented control over some of the cult reverbs that shaped 20th-century music production!

Quick start

Installation

Pulsar Primavera is available as a plugin in VST2, VST3, AU and AAX formats for use with all major DAW software such as Live, Cubase, Logic, Pro Tools, etc.

Installation from the supplied installer is automatic. The installer takes care of copying the different plugins as well as presets, manual, etc. into the appropriate locations.

Note: If you are using the VST2 format in Windows, you will be asked by the installer to specify the installation folders for the 32-bit and 64-bit VST2 plugins respectively. The paths that seem most appropriate for your computer will be recommended by default, but we advise you to check them before completing the installation. If the plugin is not installed in the same folder as your other possible plugins, your DAW software may not detect it.

Activation

All our plugins are protected by PACE's iLok system. For correct operation, we recommend you ensure that you have the latest version of the « iLok License Manager » software, available for free download at www.ilok.com .

You can choose between three activation methods:

- Activation on a hardware USB dongle such as iLok 2 or iLok 3, which will enable you to use your plugin on several machines (you can order a dongle online at www.ilok.com or buy it from your music retailer)
- iLok Cloud activation which will enable you to use your plugin on several machines but requires a permanent internet connection
- Machine activation, which does not require a dongle or a permanent internet connection, but only activates your plugin on one machine

Important: If you choose the iLok Cloud system, you have to open a Cloud session on your computer by going to the « File > Open Cloud Session » menu of your iLok License Manager. If you choose an iLok 2 or 3 dongle, you have to connect it to your computer before any operation.

When you purchase your software, you will receive:

- Either a license deposited directly onto your iLok account. Just go to the « Available » tab and drag it to the destination of your choice (here CLOUD for a cloud license, or iLok_Pulsar for an iLok 2 or 3 dongle)
- Or an activation code. Simply paste it into the « Licenses > Redeem Activation Code » menu to receive the license on your account, and drop it off at the destination of your choice (CLOUD or iLok 2 or 3 dongle)

iLok License Manager

All Licenses (126) Available (5) All Activations (1) Unavailable (72) Hidden (0)

pulsar
126 Licenses

Local

- CLOUD
35 Activations
- MacBook Pro de
0 Activations
- iLok_Pulsar
42 Activations

Valid Locations	Product Name	Publisher Name	Subtype	Expiration Date	Deposit Date	Type	Activ
	Pro Tools	Avid	Product	04/01/2019 19:59	04/01/2018 19:59	Subscription	0 of 1

ZERODOWNTIME INFORMATION

Export CSV

Show Details

iLok License Manager's "available" license tab

First Steps

Load Pulsar Primavera on a track of your choice in your DAW. A good starting point is to load a basic preset corresponding to the type of the track (voice, guitar, bass, drums...). From there:

- Start playback and listen to the reverberated sound mix with your original signal. You can adjust the Mix knob to find a satisfying balance.
- Use the Decay knob to adapt the duration of the reverb to the tempo of your song and the content of your track.
- Use the square buttons at the bottom of the interface to navigate between the various spring reverb models available. This section lets you choose which springs are used in the model, as well as their number and reference tension. This is the parameter that provides the greatest variety of sounds in the plugin.
- Set the Drive to your liking; you can choose to use a tube or germanium transistor preamplifier, depending on your audio source and the color you are looking for. High-pass and low-pass filters are also available to clean up your source before sending it to the reverb.
- Finally, the output section lets you blend your reverb with your original sound thanks to its Ducking, Presence and Volume options.

This way you can quickly review many of the available factory presets for inspiration without getting into technical considerations.

The user interface



The user interface

The user interface consists of 2 separate panels:

- The toolbar, common to all Pulsar Audio plugins (top)
- The control panel, specific to the Pulsar Primavera plugin.

Note that in all Pulsar Audio plugins, you will find a resizing control in the bottom right corner of the plugin interface.

Use of parameter controls

The parameter control knobs have several modes of use:

- The normal editing mode (use a classic mouse drag, or the mouse wheel)
- The fine editing mode (hold the Ctrl or Cmd key while dragging or while using the mouse wheel, or drag with the right mouse button)
- The « reset to default » action (double-click, or click while holding the Alt key)
- The « menu » action (right-click, or click while holding the Ctrl key)
- Only for some controls, the alternate edition mode (hold Shift while dragging), which can have various functions, for example to temporarily link two parameters

Parameter locking

It is possible to lock certain parameters, so that they are not changed when loading a preset. For example, one possible use of this feature is to set the input and output gains of a compressor to achieve the desired amount of gain reduction, lock these parameters, and then scroll through the list of factory presets to find the most appropriate tone.



Locking the Dual Input knob

To lock a control, right-click it with the mouse, or click while holding down the Ctrl key on the keyboard. If the control can be locked, a menu will appear offering to lock it. When a parameter is locked, a small padlock icon appears next to the control.

Using the GUI resize control

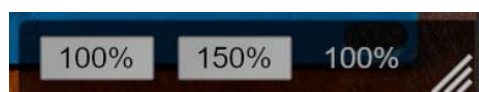
Located at the bottom right of the interface of all Pulsar Audio plugins, this control allows you to resize the plugin's interface to your liking. It comes in the form of three lines, like a classic resizing handle:



Resizing handle

Note that in some DAWs, this resizing can be problematic, depending on how the DAW developer has designed its windowing.

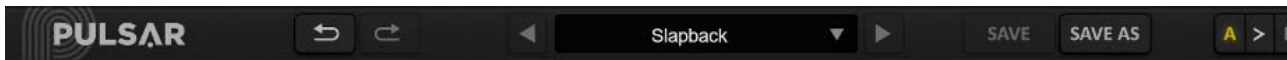
It is also possible, by clicking in the corner, to open a small popup window with buttons offering a choice of fixed size resizing (100% - 150%):



Resizing window

The Toolbar

Located at the top of the plugin interface, it contains all the functions relating to parameters, presets, communication with Pulsar Audio, etc.



The toolbar

Undo / Redo

The two arrow buttons on the left of the toolbar have the function Undo and Redo, i.e. respectively the cancellation and restoration of the last action. All parameter changes and more generally the state of the plugin are stored in a history. You can click on « Undo » at any time to return to the previous state (or to the nth previous state) and on « Redo » to return to the current state.

Note: a right-click on one of these buttons gives access to the list of stored operations.

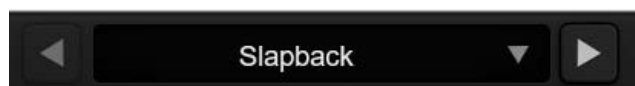


Undo / redo buttons

Preset Selection

The preset selection area, located in the center of the bar, allows you to:

- Read the name of the current preset. If an asterisk appears after the preset name, it means that the state of the plugin no longer matches the saved preset
- Select a preset from the list of available presets, arranged in sub-banks
- Delete the current preset (« Delete Preset » option)
- Rename or move a preset to another sub-bank (« Move / Rename Preset » option)
- Set the current preset as the one that will be loaded by default when creating a new instance of the plugin (« Set This Preset As Default » option)
- Open the presets directory. This can be handy for making backups of your preset files and restoring them. Note that renaming and reorganizing presets must be done from the plugin menu, not by using your system's file explorer.
- Restore factory presets. This will also overwrite any changes you have made to your factory presets
- Quickly navigate between the presets to find inspiration, using the left and right arrows

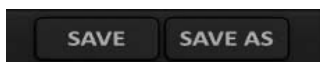


The preset selection area

Save / Save As

The Save button saves the current preset.

The Save As button saves the current state of the plugin under a new preset name.



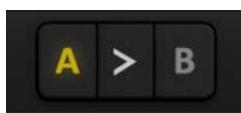
Save and Save As buttons

A / B

This section allows you to compare 2 different states of the plugin, or 2 different presets. Slots A and B, accessible through these 2 buttons, represent 2 completely independent states.

For example, when state A is active, you can load a preset and/or make settings from the interface, then click on button B; then load another preset and/or make other settings; buttons A and B now allow you to quickly switch between the two states and easily compare the 2 presets or sets of settings.

It is also possible to copy the state A to B or vice versa using the > or < buttons located between A and B.



A, B and Copy buttons

Menu Button

The button located on the far right of the bar encompasses various options.



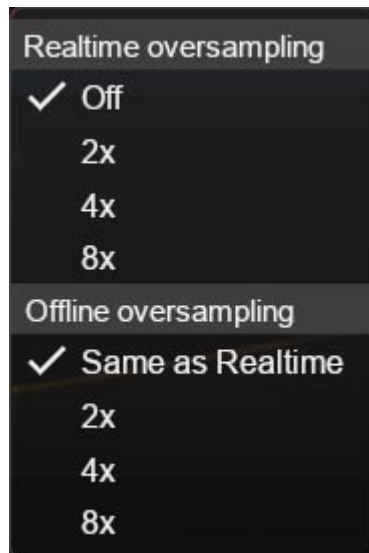
The Menu button

Oversampling settings

The first menu item is used to set the oversampling. Oversampling allows the sound to be processed at a higher sampling rate within the plugin, in return for higher latency and CPU consumption. Oversampling is disabled by default, as all Pulsar Audio products use advanced technologies that allow in most cases to process the sound without oversampling, with no compromise on quality. This makes oversampling useful mainly when you saturate a lot.

The maximum available oversampling rate is not the same in all Pulsar Audio plug-ins and depends on a trade-off between the need for oversampling and the CPU consumption induced by oversampling in this plug-in.

Please note that Pulsar Audio products use very high-quality linear phase upsampling and downsampling filters. This means that the x2 oversampling will generally be of higher quality than the x2 setting in a competitor's product, but will also be more CPU intensive.



Oversampling options

The "Offline oversampling" option allows you to choose an oversampling setting for final rendering (and other non-real-time processing) independent of the setting applied in real time. This enables to reduce the CPU consumption during the use of the plugin, while having the best quality during the final rendering.

Other options

Other functions accessible through this menu are:

- Enabling / disabling the help balloons
- Access to the website
- Access to social media
- Access to communication with technical support
- Link to this user manual

The control panel

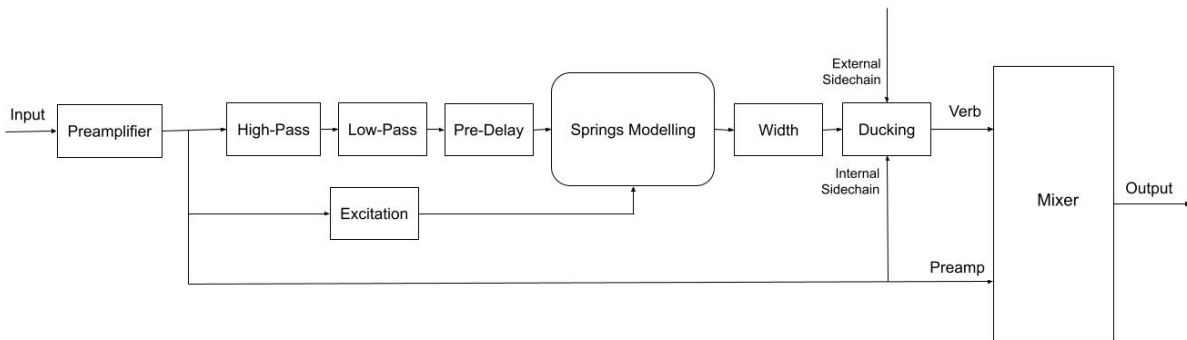


The control panel

The Primavera control panel has been freely imagined by the Pulsar Audio team, taking the classic spring reverb parameters and extending them with modern features. This interface brings together various spring reverbs that have become cult favorites since the '50s.

Signal path diagram

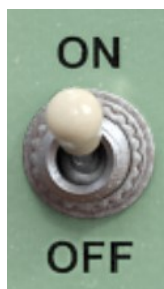
Below is a diagram summarizing the position of the various user-accessible parameters in the plugin's audio path.



Signal path diagram

Bypass

The Bypass switch toggles between the sound processed by the plugin (ON mode) and the unprocessed input sound (OFF mode).



Bypass switch

Drive

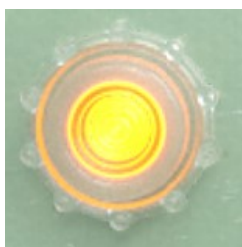
The "Drive" knob sets the gain level applied by the reverb's input preamplifier, between 0 and 10. This input level is compensated at the output after the preamplifier, so that distortion can be added without altering the sound volume too much. The higher the gain, the greater the effects of saturation (or even distortion).



Drive knob

Light bulb

Depending on the level of the input signal to Primavera and the Drive setting, the interface displays the level of distortion by means of an indicator light. The brighter the light from the lamp, the more distortion the signal will undergo before reverberation.



Light bulb

High-pass

This knob activates the high-pass filter placed after the preamplifier and adjusts its frequency. At its minimum value, the filter is deactivated after a notch.



High-pass knob

Low-pass

This knob activates the low-pass filter placed after the preamplifier and adjusts its frequency. At its maximum value, the filter is deactivated after a notch.



Low-pass knob

Choice of preamplifier

The Tube/Ger selector allows you to choose the preamplification circuit used before reverberation. The Tube mode corresponds to a pentode tube amplifier. The Germanium mode, on the other hand, corresponds to the transistor preamplifier of a well-known reverb in Dub music.



Choice of preamplifier

Predelay

This knob is used to adjust the delay between the original signal and the start of the reverberated signal, with higher knob values providing better separation between direct and reverberated sound.



Predelay knob

Tension

This knob adjusts spring tension. The adjustment range is 0 to 10, with 0 corresponding to relaxed springs and 10 to tighter springs. Increasing the tension stiffens the springs and reduces the wave travel time between the two transducers.

From a sonic point of view, this translates into an acceleration of the beats that can be heard in the reverberation tail and an emphasis on high-pitched sound components.

Inversely, a low Tension setting will give a "softer" feel, with slow beats, and an emphasis on the bass in the reverberated sound.



Tension knob

Decay

This knob adjusts the overall reverb time. The setting range is 0 to 10, with short reverb times at 0 and long reverb times at 10.

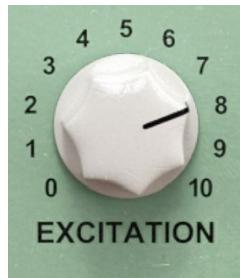


Decay knob

Excitation

When developing the spring reverb, we took an interest in reproducing the sound a spring-loaded device makes when struck or placed on the floor abruptly. It is the well-known sound that guitar amplifiers make when moved. We liked this mythical sound of exploding springs, and the idea came to us to allow the user to dynamically "excite" the reverb in this way, by triggering this particular sound through the playing of their instrument.

The Excitation knob therefore simulates small strikes on the amplifier when the instrument attacks pass through the plugin. The effect produced is the reinforcement of the characteristic "boing" sound of spring reverbs, which appears at the same time as the musician's playing (NB: you need to be careful with the Predelay setting in this case).



Excitation knob

Width

This knob adjusts the stereo image width of the spring reverb. A setting of zero will make the reverb mono, while a value of 10 corresponds to the maximum stereo width of the effect.

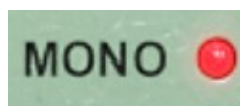
NB: When in Twang mode, which reproduces the reverb of an American tube amp, the reverb is necessarily mono. The same applies when the plugin is placed on a mono track. In such cases, the red "mono" LED on the control panel lights up, as a reminder that the Width knob has no effect.



Width knob

Mono LED

This LED lights up in Twang mode, and when the plugin is placed on a mono track, to indicate that the tank offers no stereo output. The Width knob is then inoperative.



Mono LED

Ducking

This knob reduces the amount of reverb present along with your original signal. It actually controls a compressor that reduces the reverb level when the instrument or voice passing through the reverb is playing. At the end of a phrase, the compressor is released and the reverb volume fades back in naturally.

This feature is generally used on vocals so as not to "drown out" the voice, still having nice reverb tails at the end of phrases. Of course, there are many ways of diverting this use to other instruments or for sound design purposes.



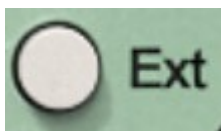
Ducking knob

External Sidechain

This switch selects whether the signal used in the Ducking detection circuit is that of the main signal or the external sidechain signal.

When activated, Ducking is calculated according to the external sidechain signal. So, in this case, you'll need to route another track from the DAW to the plugin's sidechain input.

For example, this makes it possible to make a reverb on a guitar more discreet when a synthesizer is also present, and to leave room in the mix. When the sidechain track stops playing, Primavera's reverb returns to its initial level.



External Sidechain switch

Presence

This knob creates a slight emphasis on the upper mids of your reverberated signal, making the reverb more present in the mix. Setting it to 0 leaves the original signal unchanged, while setting it to 10 pushes the treble so that the reverb's timbre cuts through the mix slightly more.



Presence knob

Volume

This knob controls the volume of the reverb before it is mixed with the original signal, depending on the setting of the Mix knob. The available adjustment range is plus or minus 12 dB.



Volume knob

Mix

This knob adjusts the balance between direct and reverberated sound at plugin output. The "Verb" position corresponds to a fully reverberated signal, while the "Pre" position corresponds to the signal before it enters the reverb, after the preamplification section.

NB: The "Pre" position of the Mix knob is equivalent to the 0% position, except that the reverb is completely deactivated and will no longer consume CPU resources. You no longer benefit from a springy reverb sound. Instead, the effect is transformed into pure distortion! When developing the effect, we liked the quality of these two distortions, and decided to make it possible to use them with or without reverb. Some instances of Primavera in our sessions are therefore only intended to add distortion, not reverb. This idea is also found in the Pulsar Echorec plugin, which in addition to a magnetic disk delay, offers another very special-sounding tube preamplifier!



Mix knob

NB: As with all Pulsar plugins, you can right-click on the knobs and make them insensitive to preset changes. This feature is particularly useful for Primavera's Mix knob. Indeed, it enables you to navigate between presets designed to operate as "insert" or "send", while maintaining the current Mix setting.



Locked Mix knob

Reverb selection

This series of buttons lets you choose which reverb model you want to use in your mix. This is undoubtedly the setting offering the greatest variety of sounds in the plugin. Pulsar Primavera offers a choice of 6 different reverbs:

- **Twang:** without being a carbon copy of a hardware machine, this mode is our version of what could be the ideal reverb for American amplifiers.
- **HR12:** a very lo-fi Japanese reverb! The passage through the device removes most of the bass from the original sound, and the character of the reverb is aggressive with lots of attack.
- **SR202:** an old reverb used in hifi; despite this, the sound is far from clean, and is characterized by very audible beats. The reverb tail is one of the least dense offered by this plugin.
- **Tubby:** this mode isn't a carbon copy either, but instead is our proposal in homage to the man who popularized springs as a creative effect. Like the king, we advise you not to limit yourself and to try passing all kinds of sounds through it!
- **RE201:** the reverb of the cult black and green box. This reverb has a more hi-fi sound, with less flutter and a softer, darker presence than the others, perfect for adding depth.
- **GBS:** the cleanest of Primavera's reverbs, with a very wide bandwidth both up and down the spectrum. While the characteristic sound of springs can be heard on attacks, the reverb tail is very dense, with only slight fluttering.

Minimum Configuration

This plugin is compatible with all major sequencers on the market (Cubase, Nuendo, Pro Tools, Logic Pro, FL Studio, Ableton Live, Bitwig, Digital Performer, Studio One, Reaper, Adobe Audition...)

Available formats:

- VST 2.4 (Windows: 32/64-bit, Mac: 64-bit)
- VST 3 (Windows: 32/64-bit, Mac: 64-bit)
- AAX (Windows: 64-bit, Mac: 64-bit)
- Audio Unit (Mac: 64-bit).



Windows

- CPU: Intel Core i3 / i5 / i7 / Xeon
- Memory: 4 GB RAM / 1 GB free disk space
- Operating system: Windows 7 and higher
- Screen resolution: minimum 1024×768 / recommended 1280×1024 or 1600×1024

MacOS

- CPU: Intel Core i3 / i5 / i7 / Xeon / Apple Silicon (M1, M2, etc.)
- Memory: 4 GB RAM / 1 GB free disk space
- Operating system: 10.9 and higher
- Screen resolution: minimum 1024×768 / recommended 1280×1024 or 1600×1024

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Activation

Pulsar Audio will not be held responsible for any failure to activate PACE's iLok protection system / license.

Trial

Pulsar Audio offers a 14-day trial license, starting at the time of transfer of the license to an iLok key. After expiration, the plugin can no longer be used, and in the event that no permanent license is acquired, it must be deleted.

Third-Party Software

VST is a registered trademark of Steinberg Media Technologies GmbH. AAX is a registered trademark of Avid Technology, Inc. Audio Units is a registered trademark of Apple Computer, Inc.

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