PSP stompDelay



Operation Manual

www.PSPaudioware.com

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PSPaudioware.com s.c. Bugaj 12; 05-806 Komorów, **Poland.**

Acknowledgments

Plug-in Design Mateusz Woźniak & Piotr Dmuchowski

Programming and Algorithms Piotr Dmuchowski

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Graphics

Mateusz Woźniak

Mateusz Woźniak

Graphics Mateusz Woźniak
Additional Graphics Piotr Dmuchowski

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Bartłomiej Frank
 Tomasz Wróblewski
 bafrank@o2.pl
 https://0db.pl

Finally, thanks to all our customers around the world for ideas and help in development of new plug-ins!

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PSP stompDelay

PSP stompDelay is a creative delay plug-in designed to provide a wide range of sounds from lush analog tape delays through vibrant loops, from classic ping-pong to scratchy pitch shifts. It features both traditional delay effects and a looper when in "infinite operation mode" (called Infinity mode) that offers continuous tap tempo, as well as accurate tape simulation, including simulating the volume drop that occurs when fast forwarding or cueing the tape.

Controls



Display — this multi-functional, interactive LED-style display shows the delay time, LFO rate, or tempo depending on which parameter is in focus. The display will switch between these parameters by clicking on or mousing over one of the above parameters in the LFO Rate and Delay Time sections. You can adjust the displayed value by dragging your mouse or scroll wheel.



LFO Rate — adjusts the LFO frequency between 0.01 Hz to 15 Hz in manual mode, or in tempo synchronization mode, adjusts the tempo between 15 and 600 BPM while the Alt key is depressed.

Here is an example of the display with the Tempo in BPM:



LFO Sync — this three-position switch selects the LFO synchronization mode. When the switch is in the leftmost position, 'off' will appear as the caption to the switch, and LFO Sync is off. In this mode the LFO Rate (frequency) is set in Hz.

Here is an example of the display with the LFO Rate in Hz:



In the middle position, LFO Rate is in tempo mode (and 'BPM' will be the caption under the switch). The LFO frequency is quantized to the musical note by selecting the numerator (number of notes) and denominator (note value) in the display. In this mode, you set the tempo manually and then set the musical note division to which the frequency will quantize.

In the rightmost position LFO Rate is in host mode (and the caption under the switch changes to 'hostBPM'). This mode is similar to tempo mode, except that the tempo is synchronized to the host tempo and the LFO is synchronized to the beginning of the bar closest to the starting point for the song's playback in the host.

Here is an example of what you will see on the display with the LFO sync in tempo and host modes:

numerator (number of notes)>



< denominator (note)

In these modes, when the LFO Rate (frequency) approaches maximum allowed value (15Hz), the display will start blinking.

In tempo and host modes, you can choose values from a list of note values ranging from sixty-fourth notes to octuple whole notes.

Note values are displayed as fractions, for example:

- 1/2 a half note,
- **1/4** a quarter note,
- 3/64 a dotted thirty-second note.

The available note values in these two modes are:

1/64, 1/56, 1/48, 1/40, 1/32, 1/28, 1/24, 3/64, 1/20, 1/16, 1/14, 1/12, 3/32, 1/10, 1/8, 1/7, 1/6, 3/16, 1/5,1/4, 1/3, 3/8, 1/2, 3/5, 5/8, 2/3, 3/4, 4/5, 7/8, 1/1, 4/3, 3/2, 2/1, 3/1, 4/1, 5/1, 6/1, 7/1, 8/1

In all modes, the LFO Rate can be set in two ways:

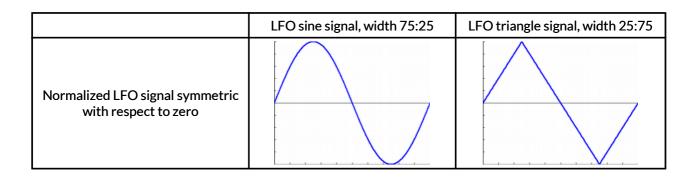
- by clicking on a digit on the LED display and moving the mouse up/down,
- by click-dragging the LFO Rate knob control.

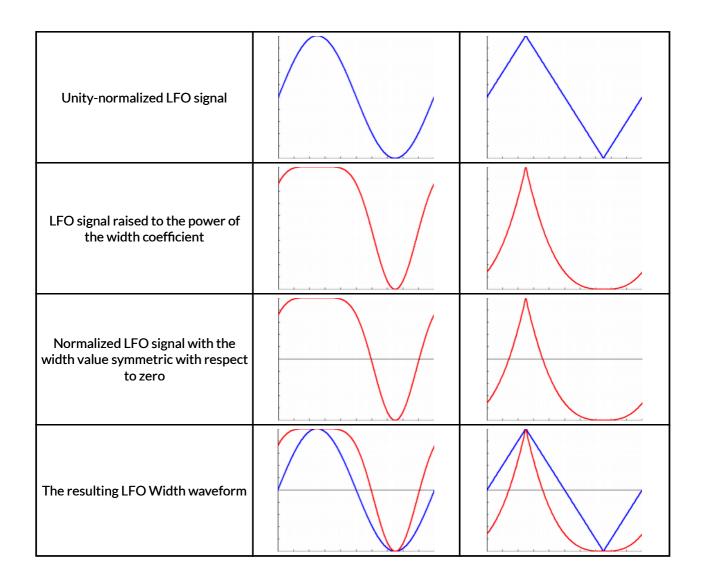
LFO Wave Selector — selects the LFO waveform. You can choose between the following waveforms: sine, triangle, saw up, saw down, square, pitch up, pitch down, spike, pseudorandom, sine with randomly modulated frequency from 0.1 Hz to 10 Hz.



The LFO waveform can be selected from the list of available waveforms (in the order shown above) by clicking the LFO Wave icon or clicking the icon and moving the mouse up/down. You can select the waveform from a drop-down list by clicking the icon with the right mouse button.

LFO Width — sets the pulse width of the LFO waves. The default is for PSP StompDelay to generate normalized LFO signals symmetrical around the zero line. In the middle position, the width is set at 50:50%; this means that the LFO signal width is unchanged from the default. Any other setting will cause the LFO signal width to be processed. As you set the LFO width fully counter-clockwise, the width will increase to 75:25%; as you move toward fully clockwise the width will decrease to 25:75%. If you are curious as to the precise mathematical process being done to the LFO width the chart below shows you graphically how this processing will affect the signal using both a sine wave and a triangle wave.





LFO Filter — filters the LFO signal using the low-pass filter. You can set the low-pass filter amount between 0 - 100%.



Delay Time — adjusts the delay time between 0.1 and 4000ms (4 seconds), or if in tempo synchronization mode, adjusts the tempo between 15 and 600BPM while the the Alt key is depressed.

Delay Sync — this three-position switch selects the time mode. You can select between 'off' mode (delay is shown in milliseconds and time is set by the user), BPM (delay time is shown in

quantized musical notes and the tempo is set by the user), or hostBPM (delay time is shown in quantized musical notes and the tempo is set by the host).

In BPM and hostBPM modes, when the delay time approaches maximum value, the display will start blinking.

Here is an example of the display with the Delay Time in milliseconds:



Delay time in BPM or hostBPM mode:



The Delay Time can be set in two ways:

- by clicking on a digit on the LED display and moving the mouse up/down,
- by click-dragging the Delay Time knob control.

The Delay Time can be set to any value by changing the numerator (number of notes) and the denominator (number of divisions per whole note) separately.

In Mode:BPM and Mode:hostBPM modes, you can choose from a list of note values ranging from sixty-fourth note triplets to octuple whole notes by click-dragging the Delay Time encoder knob. Moving the knob while the Shift key is pressed allows you to fine-tune the desired delay time value.

Note values are displayed as fractions, e.g.:

- 1/2 a half note,
- 1/4 a quarter note,
- 3/64 a dotted thirty-second note.

The allowed values in these two modes are:

1/96, 1/80, 1/64, 1/56, 1/48, 1/40, 1/32, 1/28, 1/24, 3/64, 1/20, 1/16, 1/14, 1/12, 3/32, 1/10, 1/8, 1/7, 1/6, 3/16, 1/5, 1/4, 1/3, 3/8, 1/2, 3/5, 5/8, 2/3, 3/4, 4/5, 7/8, 1/1, 4/3, 3/2, 2/1, 3/1, 4/1

Please note – the controls on the Delay Time LED display (the numerator and the denominator) and the Delay Time knob appear to the plug-in host as separate automatable parameters of the plug-in.

Glide knob — adjusts the timing (expressed as a number from 0 to 100) of the tape simulation when you are adjusting the delay tap manually.

To give you a more detailed explanation of what "Glide" refers to:

The acceleration and deceleration of mechanical tape elements (in other words, the way PSP stompDelay emulates the effects of fast forward or rewinding magnetic tape) are simulated (or more accurately, are shaped) by using a fourth-order filter algorithm. Glide is the time constant for this filter.

Glide label — click to switch between normal and scratch glide mode. Normal mode represents the typical full tape head simulation. Scratch mode is a tape simulation without simulating the volume drop from fast forwarding and cueing. When you set the Glide knob between 15 and 35, fast manual tapping will sound like scratching.

Tap Pad button — the timing between clicks on the tap button sets the delay time. In order to automate this parameter effectively, you need to record the changes of the DelayTime parameter in Mode:time or the NoteTime parameter in Mode:BPM and hostBPM.

Tap LED indicator — this indicator has three functions:

The indicator flashes for the Tap button, after the Tap button is clicked The indicator flashes for the delay time, when delay is synchronized to tempo The indicator flashes for the beginning of a loop when in Looper mode



Delay Time Slider - adjusts the delay time or delay note depending on Time mode.

The delay time/note can be changed either by clicking and dragging the grey indicator to the desired value or by pressing the Alt (Option – Mac) key and clicking anywhere on the Delay Time slider.

Delay Time slider scale — the Delay Time scale can indicate 10ms, 20ms, 40ms, 100ms, 200ms, 400ms, 1000ms (1 second), 2000ms (2 seconds), or 4000ms (4 seconds). You can adjust the scale using the Delay Time Slider Zoom arrows.

Clicking the slider scale automatically sets the optimal scale for the current value of the Delay Time parameter.

Delay Time Slider Zoom Arrows — click the left or right arrows to change the Delay Time slider scale. The red LEDs on each side of the Delay Time slider indicate that you can change the zoom level. When the left LED is lit, it is letting you know that you can still zoom in closer, giving you more fine control over the delay time. When the right LED is lit, you are zoomed out all the way, and can make larger delay time adjustments.



Input Width — sets the stereo panorama width between stereo, mono, and inverse stereo.

Input Level — sets the input level between -24 and + 24dB.

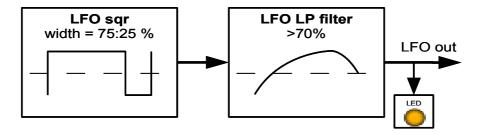


Input Output Reverse Link — simultaneously sets the input and dry/wet output level in the reverse direction, proportionally in dB.

In order to automate this parameter effectively, you need to also write the changes of the following three parameters: Gain, Dry and Wet.

LFO Spread — adjusts the LFO phase difference between the left and right channels, within a range of +/- 180° (values of 180° and -180° indicate that the LFOs for the left and right channels are in counterphase).

LEDs for each channel indicate the LFO signal with the LFO width and the impact of filter as shown by the signal flow diagram below:



LFO Depth — adjusts the amount of the LFO applied to the delay tap. The maximum value possible depends on the delay time.

DEPTH label — switches the LFO on or off.

Cutoff (Low-Pass Filter) — sets the cutoff frequency of the low-pass filter between 20 Hz and 2500 Hz.

LPF label — click to switch the LP filter on/off.

Cutoff (High-Pass Filter) — sets the cutoff frequency of the high-pass filter between 250 Hz and 20000 Hz.

HPF label — click to switch the HP filter on/off.

Filters label — click to switch HP and LP filters on/off simultaneously.

In order to automate this parameter effectively, you need to also write the changes of the following parameters: HPF on/off and LPF on/off.

LIMiter — this control adjusts the internal limiting. You can set it from 0% (minimum limiting referenced to +9dB) to 100% (maximum limiting referenced to -15dB). When limiting, the LED indicator will light.

Lim label — click to switch the limiter on/off.

SATuration — this control sets the saturation level from 0% (no saturation) to 100% (maximum saturation +9dB). When saturation occurs, the LED indicator will light.

Sat label — click to switch saturation on/off.



Delay Feedback — sets the feedback amount from 0% to 150%.

This control has 7 pre-set values: 0%, 25%, 50%, 75%, 100%, 125% and 150%. You can choose between them by clicking on a corresponding (clockwise) dot next to the control or by clicking on the Delay Feedback knob with the CTRL key pressed.

FEEDBACK label — click to remove all feedback. This is useful as a kind of panic button if your delays are out of control.

Delay Ping-Pong — sets the amount of the ping-pong effect. There is no ping-pong delay present in the Center position. Moving the control to the left from Center sets the plug-in's left delay shorter then the right one. Moving the control to the right from Center sets the right delay shorter then the left one. For a standard, balanced ping-pong effect set this control to R50% or L50%.

This control has 7 pre-set values: L66.66%, L50%, L33.33%, 0%, R33.33%, R50% and R66.66%. You can choose between them by clicking on a corresponding (clockwise) dot next to the control or by clicking on the Ping-Pong knob with the CTRL key pressed.

Ping-Pong label — click to switch Ping-Pong on/off.

Image — controls the stereo spread (image) of the delayed signal. Values to the left of Mono reverse the stereophony. Settings close to Mono narrow the signal. Setting it to Stereo provides a standard stereo dry signal at the output.

This control has 9 pre-set values: -stereo, -75%, -50%, -25%, mono, 25%, 50%, 75% and stereo. You can choose between them by clicking on a corresponding (clockwise) dot next to the control or by clicking on the Image knob with the CTRL key pressed.

Delay Image offers two modes:

- pre first reflection and feedback are processed by the image effect,
- post only feedback is processed by the image effect.

Image label — click to change the Delay Image mode.

Output Pan Dry — sets the stereo panorama of the dry output signal.

Output Level Dry — sets the level of the dry output signal.

Output Dry indicator — click to add/remove the dry signal from the output.

Output Pan Wet — sets the stereo panorama of the wet (processed) output signal.

Output Level Wet — sets the level of the wet (processed) output signal.

Output Wet indicator — click to add/remove the wet (processed) signal from the output.



Dry/Wet global parameter switch —toggles between local and global setup parameters. In local mode, your wet/dry settings are saved with the single preset you are using only. When in global mode, the wet/dry settings are stored in all presets (this is useful if you want to always use the same configuration in all your presets). When the lock icon is open, you can access local setup parameters. When the lock icon is closed, you can access global setup parameters.



Dry/Wet Mix — sets the balance between the wet and dry signal. To reverse the values, adjust this setting with the Alt (Option - Mac) key down.

In order to automate this parameter effectively, you need to also write the changes of the following parameters: Dry and Wet.



Bypass — toggle the plug-in on/off.

Feed — toggles feeding signal to the delay buffer. The LED indicates the plug-in is feeding signal to the delay processor. When toggled off, the input signal remains undelayed. However, the delay processor still processes the signal contained in the delay buffers in the background, so when you toggle Delay Feed back on, the delay processing will continue immediately.

Delay Feed Mode switch — switches between the three delay feed modes:

monoOn — monostable switch with (stable) position On. In this state, the Delay Feed switch will be set to OFF upon clicking the button and will return to the default ON position after releasing the mouse button.

monoOff — monostable switch with (stable) position Off. In this state, the Delay Feed switch will be set to ON upon clicking the button and will return to the default ON position after releasing the mouse button.

Bistable — bistable switch with two (stable) positions On and Off. In this state, when you click the Delay Feed switch, the switch will remain in the same position until clicked again.

∞ (Infinity) Looper switch — switches Infinity (looper) mode on/off. Infinity mode activates an independent buffer that is fed from stompDelay's pre-delay and feedback. In Infinity mode everything works the same as in Delay mode with the exception of Ping-Pong and Delay Spread mode, which are deactivated.

LFO Flow — selects between three signal flow options for the LFO (see the signal flow diagram in the next section).

The choices are:

delay - the LFO affects only the main buffer, the pre-delay buffer and feedback taps.

loop - the LFO only affects the independent buffer used by Infinity mode.

Delay & loop - the LFO affects both the delay buffers,

and the independent buffer of Infinity mode. The depth of LFO feedback is the sum of the LFO's influence on the signals in both buffers.

Ducker — this is an automatic wet output gain controller, based on the level of the input signal.



Ducker LED — indicates the state of the ducker. Red indicates the ducker is in the closed or closing state. Green indicates the ducker is disengaged.

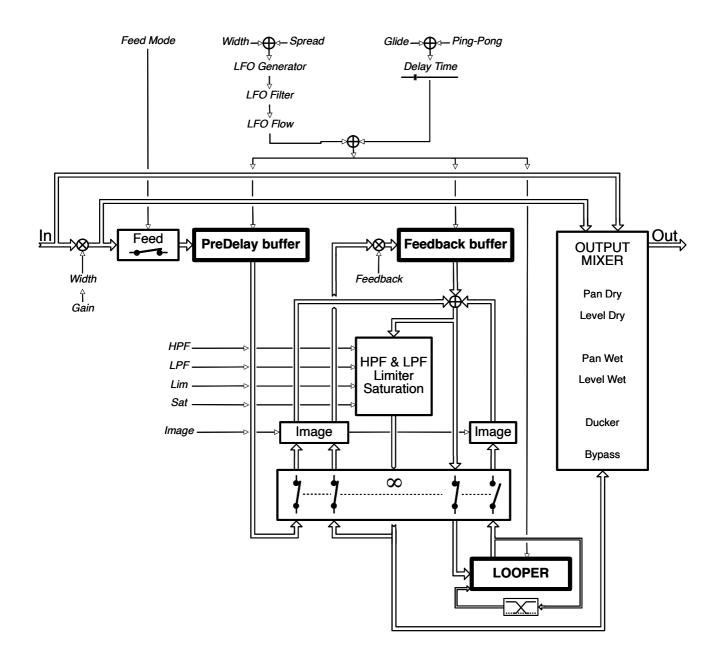
Duck label — use this button to engage (when the text is bold) or disengage the ducker.

Ducker Threshold — adjusts the threshold of the ducker.

Ducker Range — sets the amount of attenuation when the input signal passes above the threshold.

PSP stompDelay Signal Flow

This diagram shows the signal flow inside PSP stompDelay. You can see how the LFO affects the various buffers depending on the mode, and where the looper fits in the signal chain.



Preset Handling & View Options

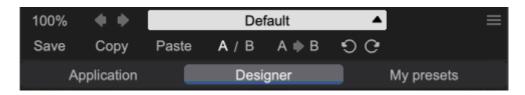
We provide all PSP plugins with a collection of factory presets. These presets can be used as a starting point for further adjustments, or for quick fixes.

You access presets from the PSPaudioware standard PRESET BAR at the top of the plug-in interface.



Preset Browser

The PSP stompDelay edition features a comprehensive new preset management and browser system. To access the preset browser, you click the preset name window at the top of the plug-in (which displays 'Default' when the plug-in loads).



The new preset management bar has three main categories which can be accessed with the tabs at the top of the preset browser: **Application**, **Designer**, and **My presets**.

Application - shows all factory built-in presets grouping by application.

< Factory presets are built into the plugin and cannot be directly edited!</p>
You can adjust them and save separately as user presets >

Designer - shows all factory built-in presets grouped by designer.

My presets - shows only user presets.

This view shows all of the presets you have created and saved, or downloaded and added to your custom presets for PSP stompDelay.

To add categories to the preset list, you can create new subfolders in the preset directory.

For Windows users, this is located at:

C:\Users\Username\Documents\PSPaudioware.com\User Presets\PSP stompDelay

For Mac users, this is located at:

~/Documents/PSPaudioware.com/User Presets/PSP stompDelay

< You can always check the exact path by clicking on the "Show file in Finder" tab at the bottom of the preset browser window. >



To select a preset, click a preset name in the right window. When clicked, the preset will be applied so that you can audition it. To confirm the preset choice, you can click the preset name once more to load it.

Each preset has own picture, click on it to open the designer's website.

Copy / Paste



The Copy/Paste feature allows you to quickly transfer settings between instances of the plug-in.

To use this feature, you can click 'Copy' at the top of the plugin below the preset browser window. Then, open a new instance of the plug-in on another track (or on the same track) and click 'Paste' to paste the settings to the new instance of the plug-in.

This feature can be particularly useful for processing similar instruments or sounds when only a few minor tweaks are needed.

A/B System



The A/B system for quickly checking and auditioning changes to the plugin settings.

The **A/B Button** at the top of the interface below the preset browser window allows you to A/B between the current and previous setting of the plug-in. This can be used to audition changes made to your mix, or to audition between two presets.

The A>B Button quickly copies the settings of the A setting to the B setting. This allows you to save your place and apply further tweaks and the audition them with the A/B Button.

Undo / Redo



The **Undo/Redo** feature of the plugin lets you quickly navigate between setting changes.

To use this feature, use the undo/redo buttons (CCW and CW arrows, respectively) located below the preset browser window.

These buttons will undo changes to the current plug-in settings, or allow you to undo a preset change depending on the last action in the plug-in.

100% GUI resizing



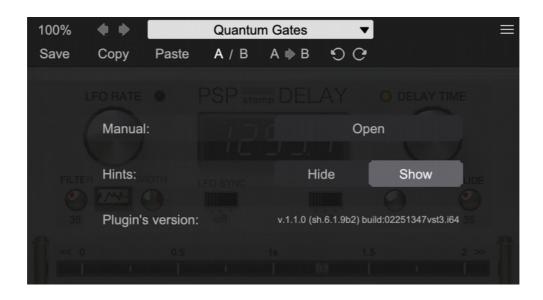
Scroll (by the mouse wheel or use two finger tap on the touchpad) this percentage up or down to change the GUIs zoom factor. Double click to reset its state to the default size (100%).

You can resize the plug-in interface by just dragging the right bottom corner of the plug-in to any size you like.

CONFIG section



When clicking the three parallel lines glyph, the **CONFIG** menu will open and it allows you to open the manual, check the current plugin version number and turn on/off hints.



Minimum System Requirements

PC

VST3

- Windows 7 Windows 11
- 64-bit VST3 compatible application

VST

- Windows 7 Windows 11
- 64-bit VST compatible application

AAX

- Windows 7 Windows 11
- 64-bit Pro Tools 11, 12 or Pro Tools HD 11, 12 or Pro Tools Ultimate

All DAWs

• The latest iLok License Manager application installed (an iLok dongle not required)

Mac (macIntel or arm AppleSilicon processors)

AudioUnit

- macOS 10.12 macOS 12.01 Monterey
- 64-bit AudioUnit compatible host application

VST

- macOS 10.12 macOS 12.01 Monterey
- 64-bit VST compatible host application

VST3

- macOS 10.12 macOS 12.01 Monterey
- 64-bit VST3 compatible host application

AAX

- macOS 10.12 macOS 12.01 Monterey
- 64-bit Pro Tools 11, 12 or Pro Tools HD 11, 12 or Pro Tools Ultimate

All DAWs

• Up to date iLok License Manager application installed (an iLok dongle not required)













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Processing

- All internal processing done with 64 bit double precision floats.
- 32 and 64 bit floating point audio streams supported
- Sample rates up to 384 kHz supported.

Limitations of the demo version

We offer a 30 day evaluation period without any audio interruption or control limitations. To get access to the plug-in and your unique authorization details simply log-in to your account at our <u>user area</u>.

Enjoy! PSP team

Support

If you have any questions about any of our plug-ins, please visit our website:

www.PSPaudioware.com

Where you can find the latest product information, free software updates, online support forum and answers to the most frequently asked questions.

Problems with the installation, activation or authorisation? Please watch our <u>troubleshooting video tutorials</u> on our YouTube channel.

You can also contact us by e-mail: support@PSPaudioware.com.
We will gladly answer all of your questions. As a rule we respond within 24 hours.

PSPaudioware.com s.c.

Bugaj 12 05-806 Komorów Poland. ph. +48 601 96 31 73 www.PSPaudioware.com contact@PSPaudioware.com

PSPaudioware.com s.c.

Bugaj 12 05-806 Komorów

Poland