

PSP BBDelay

Virtual Reverberation System



Operation Manual

PSPaudioware.com

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PSPaudioware.com s.c.
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05-806 Komorów,
Poland.

Overview

Thank you for your purchase of PSP BBDelay!

PSP BBDelay is a BBD* based delay and reverb plug-in inspired by a classic Dynacord VRS 23. Beside having processing features of this classic hardware the PSP BBDelay also contains several enhancements to extend the variety of possible applications while keeping the main concept consistent.

Features

- Mono or dual mono delay up to 400ms in the standard mode and up to 800ms in the x2 mode.
- Emulation of individual BBD chips
- Emulation of the compander (compressor and expander) and its misalignment.
- Four discrete delay settings.
- Smooth Delay “speed” adjustments from x0.25 to x4.0, direct “time” control or “note” selection.
- Output Tone control.
- Four processing modes: Mono Delay, Dual Mono Delay, Ping-Pong and Reverb.
- Four modulation modes: Sine, Triangle, Square and Random.
- Low and High frequency damping control.
- Three “dirty processing” settings.
- Delay transient control.
- Delay Ducker and Gate.
- Delay Saturation.

* BBD stands for Bucket Brigade Device (sometimes Bucket Brigade Delay). BBD is an analog chip designed to provide a delay commonly used in classic rack and pedal delays, choruses and flangers.

PSP BBDelay main panel

PSP BBDelay is inspired by the distinctive sonic character and operating concept of the classic Dynacord VRS 23 BBD type delay / reverb unit. PSP BBDelay is an independently developed PSP product and extends the original hardware concept with additional features. Please go through all details of this manual to benefit from all plug-in's features.



Signal Control section

PSP BBDelay has a single panel GUI with a direct access to all its controls.

METER BAR: Indicates the level at the input of the delay / reverb. It contains the input signal mixed with the feedback signal.

TONE: Controls the brightness of the processed signal. Its middle position is a neutral one.

INPUT: This knob adjusts the global input level. The output level is variable between -∞ dB (full counter-clockwise) and +12 dB (full clockwise). This parameter is preset independent when the Lock mixer mode is engaged.

OUTPUT: This knob adjusts the global output level. The output level is variable between -∞ dB (full counter-clockwise) and +12 dB (full clockwise). This parameter is preset independent when the Lock mixer mode is engaged.

MIX: This sets the ratio between dry and wet (processed) signals. This knob is disabled whenever the WET button is enabled. This parameter is preset independent when the Lock mixer mode is engaged.

LOCK mixer: Sets the locking of Input, Mix and Output parameters. Those parameters behave preset independent when locked.

WET only: Sets the Wet only mode for the Mix control and disables the Mix knob. The dry signal is disabled and the processed signal only goes to plug-in's output. This parameter is preset independent.

DIRT MODE SWITCH: Selects between clean, normal or dirty mode to control the amount of the overall character, circuit misalignment and degradation for each of delay cycles.

Delay - Reverb section

CTRL – CONTROL DELAY: Selects the mode of the Delay knob. Select Speed mode to control the internal speed multiplier. Select Time for a direct time adjustment as a priority. Select Note for a synchronized note values as a priority. In Time and Note modes the label under the Delay knob may turn red which means that a selected delay setting is out of range for a Time-Base or tempo.

DELAY: Controls the internal BBD clock rate which is similar to controlling a tape speed in a tape delay, the full CCW setting results in the longest delay times (slowest tape) and the full CW position results in shortest delay times (fastest tape). The maximum rate multiplication is x2.5.

TAP: Tap on this button to set up the delay time. The value under the Delay knob turns red when the desired delay value cannot be used for a selected Time Base. Please change the Time Base setting to achieve proper delay set up.

REGENeration: Controls the amount of the feedback. The higher the value the longer the delay or the reverb persists. A full CCW position results in a single tap of a delay or two initial taps of the ping-pong or the reverb.

compander adjust: controls the alignment between the compressor and the expander. The proper alignment and the smoothest response at the tail of the delay and at low signal levels is at its 0 position. Turning the screw pot CCW expands the initial decay phase and closes it rapidly. Turning the screw pot CW attenuates the initial decay phase and sustain the low level tail. In both cases a considerable amount of unique distortion is added to the delayed signal.

Delay Time Display: Displays the calculated delay time in ms using the currently set delay knob's mode and value.

X2: Sets the x2 mode to double the length of the delay. The bandwidth of the processed signal drops when engaged.

TIME - BASE: Selects the time base of the delay. Given values are only for information and are not exact. For instance in mono and dual mono delays first two delay times are respectively 40 and 80ms, in the ping-pong the first tap is less than the setting and in the reverb mode or whenever the Texture is greater than 0 the result is much more complicated. Please use the Delay knob to precisely adjust the delay time.

spread: Controls the randomized spread of the delay of individual BBD chips. Settings other than 0 allows to introduce a time variation between channels when the Dual echo mode is set, the slightly uneven Ping-Pong response or to change the character of the Reverb tail. In the case of the Echo the effect could be a slight off-time response.

EFFECT-MODE: Selects the plug-in's effect-type processing mode:

- delay – a standard mono delay,
- dual delay – a dual mono delay,

- ping-pong – a ping-pong type of delay, the pattern of the delay is Delay-Time dependent,
- reverb – a reverb mode. Please do not overestimate the “reverb” name of this mode. Although this mode has an increasing density and interesting tap pattern and a lot of character please mind that it is based on a set of BBD chips, not a complex reverberation network.

Modulation section

CTRL – CONTROL MODULATION RATE: Selects the mode of the Rate knob. Select Freq mode to control the modulation rate by frequency. Select Note for a synchronized note values for a modulation rate. Select Relative to set up the modulation rate in relation to the delay time.

MODULATION sweep RATE: Controls the rate of the modulation.

MODULATION DEPTH: Controls the depth of the modulation.

MODULATION-TYPE: Selects the modulation waveform:

- sine – a standard sine wave,
- tri – triangle mode which corresponds with hardware's modulation waveform,
- sqr – a square wave,
- rnd – pseudo random waveform.

MODULATION PHASE: Adjusts the phase of the modulation wave shape for the Modulation Note mode.

PSP BBDelay: Click to open the back panel settings or the about box.

ON: Enables the processing of the entire plug-in.

INSERT Process: Enables the Insert Module's processing. Processing of all sections of the Insert Module are disabled when button is off.

INSERT View (open-close): Opens or closes the Insert Module.

Insert Module



Filters control

ON button: enables the Transients section.

hpf: Sets the low frequency damping cutoff, the higher the value the more of low frequency loss on each delays' repetition or reverb's processing cycle.

bell freq: Sets the resonance frequency of the bell filter.

bell blend: Sets the blending between the flat response and the bell filter's response. The 0 refers to no bell influence and 100 is a full bell's response.

lpf: Sets the high frequency damping cutoff, the lower the value the more of high frequency loss on each delays' repetition or reverb's processing cycle.

Transients section

LED: indicates the activity of the transients' control algorithm.

ON button: enables the Transients section.

amount: controls the amount of transients in the delayed signal. Turn CCW to attenuate transients on every delay repetition. Turn CW to exaggerate transients.

time: controls the base time for the transient control thus influences the duration and character of the transient.

Ducker section

LED: indicates the activity of the Ducker algorithm. The ducker is closed when lit.

ON button: enables the Ducker section.

hold ctrl switch: selects the operation mode of the hold knob/encoder. Select time for direct time control, note to set up a synchronized note value with the encoder, use relative to set up the hold time in relation to the delay time set.

open: adjusts the ducker's open time.

Gate section

LED: indicates the activity of the Gate algorithm. The gate is closed when lit.

ON button: enables the Gate section.

hold ctrl switch: selects the operation mode of the hold knob/encoder. Select time for direct time control, note to set up a synchronized note value with the encoder, use relative to set up the hold time in relation to the delay time set.

close: adjusts the gate's close time.

Saturator section

LED: indicates the activity of the saturation algorithm.

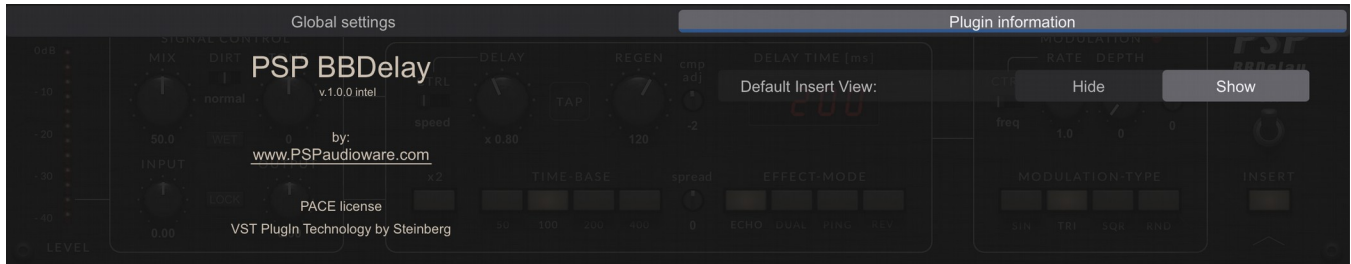
ON button: enables the Saturator section.

shape switch: selects the saturation shape. Choose from: soft, normal or sharp saturation curves.

blend: adjusts the mix ratio between unsaturated and saturated signals.

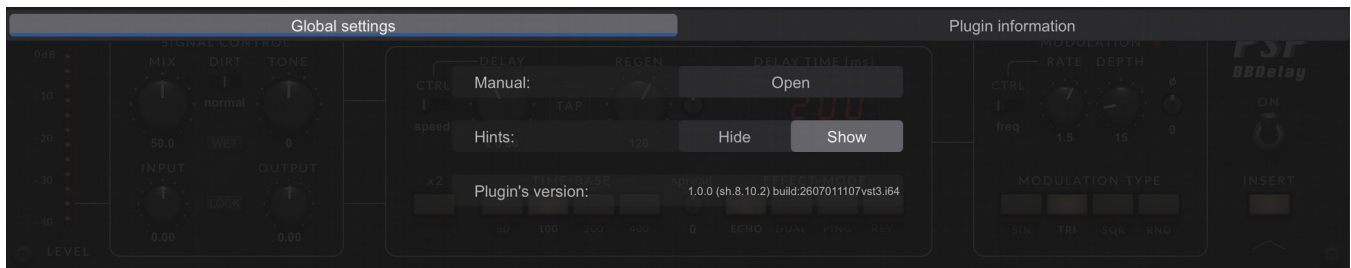
Back panel

Clicking on the front panel's PSP BBDelay label opens the rear panel About box, on the Plugin Settings tab. Click on the link to open the PSPaudioware.com website. Click on any label other than the web site link to close the rear panel and return to the front panel.



Default Insert View – sets the the state of the insert module view when opening a new instance of the plug-in. Set to Show to force opening every new instance with the Insert view visible.

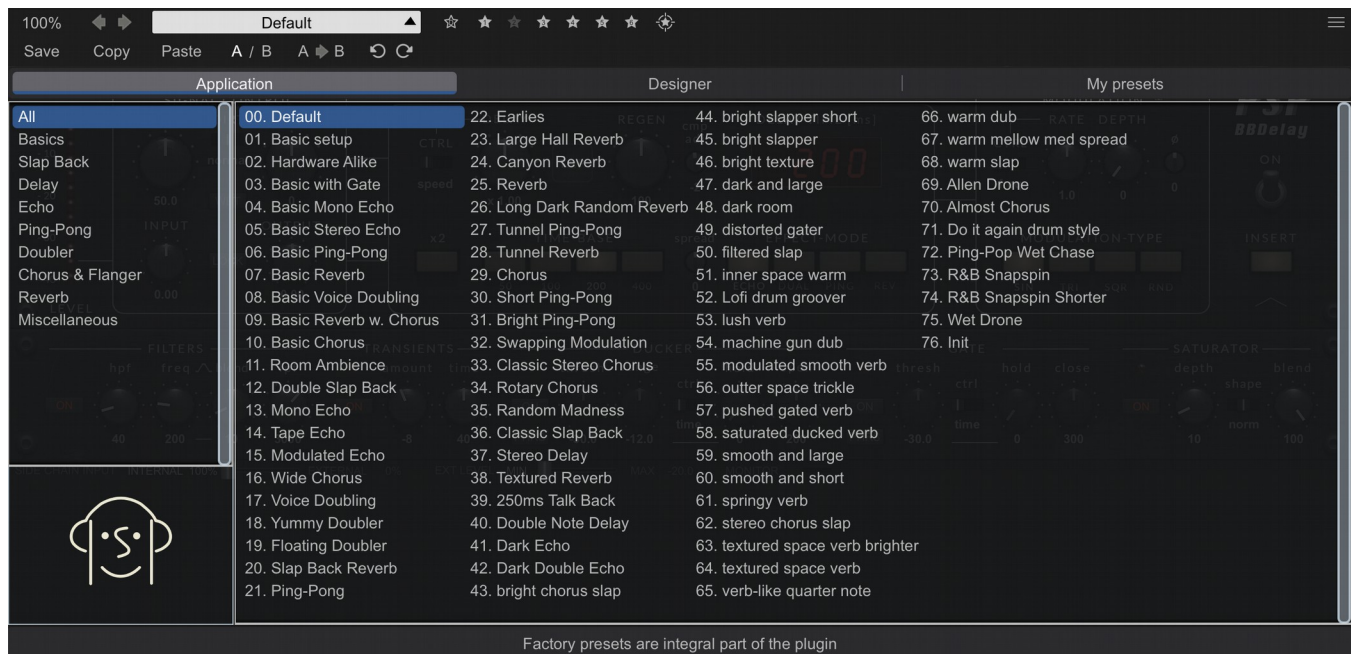
The Global Settings tab lets you access this manual or set whether Hints (floating information boxes that appear when hovering over a control) are visible or not. It also shows the installed version of the software, for help with troubleshooting. Please go to **Config** section of this manual for more details.



PRESET HANDLING AND VIEW OPTIONS

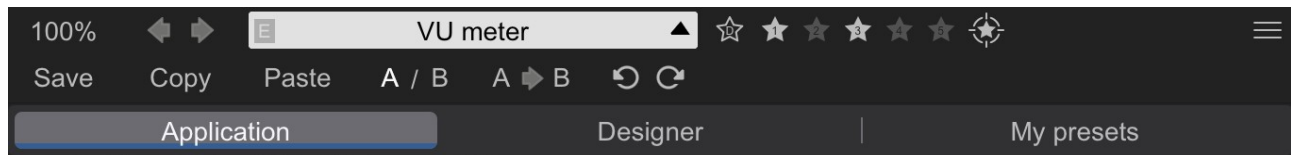
Every PSP plug-in comes with a large library of factory presets. You can use them as a starting point for experimenting with your own sounds, examine them to understand how the various features work, or keep them handy for when a track or mix needs a quick and high-quality way to create an effect or fix a problem.

To access the preset library, just click on the Preset Bar along the top of the plug-in window. If you're familiar with other PSPaudioware plug-ins, you'll find that this one works exactly the same way.



Preset Browser

PSP plug-ins feature a comprehensive preset management and browser system. The preset browser is opened by clicking the preset name field at the top of the plug-in interface.



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!
You can adjust them and save separately as user presets.* >

Designer - shows all factory built-in presets grouped by patch 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 EmptyProject.

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

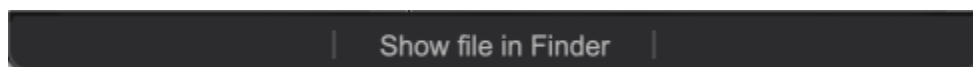
For Windows users, this is located at:

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

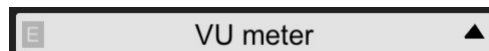
For Mac users, this is located at:

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

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



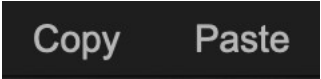
To select a preset, click a preset name in the right window. When clicked, the preset will be applied so that you can audition it. To confirm the preset choice, you can click the preset name once more to load it.



The name of the currently selected preset can be edited by clicking the Edit Name (E) icon in the preset name bar, or by right-clicking the preset name field. The edited name is used as the proposed preset file name when the preset is saved or adding it to favorites.

Each preset has its own picture. You can click on it to open the patch designer's website.

Copy / Paste

A dark rectangular button with the words "Copy" and "Paste" in a light gray sans-serif font, separated by a small gap.

The **Copy/Paste** feature is useful for when you're running two or more instances of Lexicon PSP42 and you want them to have identical settings.

Of course, you can always open a new instance and load the same preset as your first instance has, but this only works if your first instance hasn't been tweaked at all since the preset was loaded. To share your tweaks between instances, use **Copy** and **Paste**.

To use this feature, simply click the **Copy** button, open a new instance of PSP BBDelay where it's needed, and click the Paste button to load the first instance's settings.

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

A/B System

A dark rectangular button containing two sets of controls. The first set shows "A / B" with a vertical bar between them. The second set shows "A" followed by a right-pointing arrow and then "B".

The **A/B system** lets you quickly audition changes to your settings. You can compare how different tweaks work in a track or mix, or even audition two different presets on the fly.

The **A/B Button** allows you to quickly switch between the current plug-in settings (**A**) and a previous group of settings that you've previously stored (**B**).

The **A>B Button** copies the **A** settings over to the **B** slot. This lets you temporarily 'bookmark' your current settings, make more tweaks, and then compare the new tweaks with your 'bookmarked' settings using the **A/B Button**.

Undo / Redo



The **Undo/Redo** feature can be extremely important when designing presets! We all know the frustration when we make one too many edits and ruin a previously great sound. With the **Undo** and **Redo** buttons (the counterclockwise and clockwise arrows as shown above), you can step backward and forward through your edit actions until you're back where you wanted to be.

These buttons will let you undo a preset selection, returning you to your previous preset with all settings as they were when you stopped editing it.

Favorite Presets

The Favorite Presets system provides a fast and consistent way to recall and store a small set of user-defined presets directly from the plug-in interface. This mechanism is designed as a global concept and is shared across all PSP plug-ins that support Favorite Presets, ensuring identical behavior and workflow regardless of the specific product.



Default preset



This button recalls the currently assigned default favorite preset.

The default favorite preset defines the initial preset for all newly created plug-in instances and is automatically loaded whenever a new instance of the plug-in is created. This allows the user to define a preferred starting state that replaces the factory initial behaviour.

Favorite preset slots



The numbered star buttons represent user favorite preset slots.

Clicking a numbered star recalls the preset stored in that slot.

If a star icon is displayed in gray, no preset has been assigned to that slot yet. Once a preset is stored, the star becomes active and can be recalled instantly with a single click.

Assign mode



This button activates Assign mode for storing the current plug-in state into a selected favorite slot.

When Assign mode is enabled, the assign icon is highlighted with a reddish tint, indicating that the system is armed .

While armed:

- Clicking any star stores the current settings into that slot.
- Shift-clicking any star resets the preset slot to the factory initial state.

Assign mode is automatically canceled when:

- A favorite slot is selected and the preset is stored.
- Any other GUI control is adjusted.

The timeout period expires (approximately 10 seconds).

GUI resizing



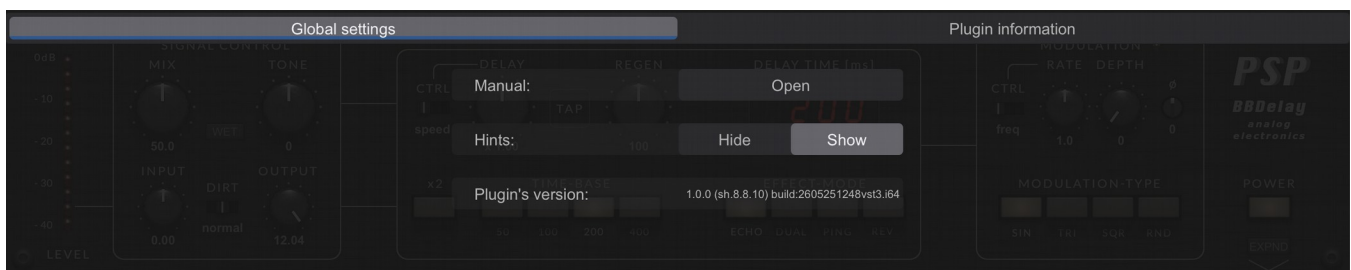
The percentage at the top left shows the current user interface size. Click on it to reveal a dropdown menu of size choices, or hover your mouse on it and scroll up and down to change the size quickly. Double-click to reset it to the default size (100%).

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

Config section



Click the icon with three parallel lines in the top right corner to open the **CONFIG** menu. You will find controls to open the manual, hide or show mouse-hover tool tips (Hints), and check your current plug-in version with build number.



These functions are also available in the **Global Settings tab** on PSP BBDelay back panel, which is accessed by clicking the PSP BBDelay name on the front panel.

Clicking the Plug-in Information and Settings tab returns you to the main view.

Minimum System Requirements

In order to run PSP BinAmp you need to install the free [iLok License Manager](#) application but you don't need any hardware dongle. By default we provide 3 licenses which can be activated in 3 separate locations, each of which can be either a computer or an iLok dongle (2nd generation or above). You can move these licenses at any time using PACE's iLok License Manager software.

Windows

VST

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

VST3

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

AAX

- Windows 7 – Windows 11
- 64-bit Pro Tools

All DAWs

- Up to date iLok License Manager application installed

macOS Intel or macOS AppleSilicon

AudioUnit

- macOS 10.14 – macOS 26 Tahoe
- 64-bit AudioUnit compatible host application

VST

- macOS 10.14 – macOS 26 Tahoe
- 64-bit VST3 compatible application

VST3

- macOS 10.14 – macOS 26 Tahoe
- 64-bit VST3 compatible host application

AAX

- macOS 10.14 – macOS 26 Tahoe
- 64-bit Pro Tools

All DAWs

- Up to date iLok License Manager application installed



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Processing

- All internal processing done with 64-bit double precision floats.
- PSP BBDelay supports 32-bit and 64-bit floating point audio streams.
- PSP BBDelay supports sample rates up to 384 kHz.

PSP BBDelay and Plug-in Latency

Currently the latency of the dry signal is 0 and the wet signal's latency is settings' dependent..

Limitations of the demo version

We offer a 30-day evaluation period without any audio interruptions or control limitations. To get access to the plug-in and your unique authorization details, simply login to your account at our [user area](#).

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 authorization?

Please watch our [troubleshooting video tutorials](#) 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.

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