# PSP 2445

Endorsed by EMT®


# Operation Manual

www.PSPaudioware.com

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- Sebastian Imbierowicz aka 600Vmusic DJ 600V facebook site

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

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Bugaj 12;
05-806 Komorów,
Poland.

# PSP 2445

**PSP 2445** is a reverb processor inspired by algorithms from two legendary early digital age reverberators: the EMT 244 and the EMT 245. PSP thoroughly researched how to bring the specific features of those simple, yet very musical sounding reverbs to life as a plug-in. We then improved from the originals with a handy set of parameters to control details of the sound and mix the reverb not available in the original hardware. The PSP 2445 is capable of processing using one selected engine or both of them simultaneously.


## Controls

**Power switch** – click on the I/O switch or the power indicator to engage or disengage the signal feed to the processing algorithms. When set to "O" the PSP 2445 is not bypassed and the output signal depends on Mix and Output Gain settings. Use your host application's plug-in bypass control to fully bypass the 2445 reverb.

**Engine switch** – click and drag the rotary switch to the left, middle or right or click on one of labels to select the engine mode:

- 244 – only the 244 reverberation engine will be mixed to the output,
- + - both 244 and 245 reverberation engines will be mixed to the output simultaneously,
- 245 – only the 245 reverberation engine will be mixed to the output.

**Input Level meter** – indicates the signal level reaching the inputs of the reverberation algorithms. Any value above 0dB will be clipped on the input.

**Input Level knob** – sets the input level fed to reverberation algorithms.

**Delay** – sets the predelay time added before the reverberation occurs.

**Reflections** – sets the amount of early reflections mixed before the reverb tail.

**Time knob** – sets the reverberation time.

**PSP 2445 label** – click on the label to open the about box of the plug-in. The about box contains information about plug-in and authorization details. Click wherever on the about box area to switch bak to normal plug-in's view.

**Low Frequency Time switch** – click on the switch or on LEDs above it to switch between normal and extended reverberation time for low frequency range.

**High Frequency Time switch** – click on the switch or on the LEDs above it to switch between normal and dampened reverberation for the high frequency range.

**Output Mix knob** – sets the amount of dry to reverberated signal ratio.

**Output Gain knob** – sets the level of the mixed output signal.

**Flap** – click on the OPEN label opens the hidden parameters flap.


**Route** – selects plug-in's input and output routing.

The Original EMT 244 and EMT 245 operated using a mono-to-stereo configuration. Since we have both engines running simultaneously we can provide more stereo configurations with a wet signal.

With the Route switch you can select between three signal configurations:

1. Standard Mono-Stereo configuration. In this configuration any single engine (244 or 245), or both running in parallel (244 + 245), can provide a stereo output followed by Width, Balance, Mix and Output.

2. Stereo-Stereo mode varies the sound depending on which input channel the signal is coming from. In this mode the stereo reverb differs from standard Mono-Stereo even if the input is fed with a mono signal because of the additional processing used to create True Stereo-to-Stereo operation. Using a single 244 or 245 engine results in a highly shifted stereo field, thus 244 + 245 mode is recommended. For best results set 244 to II-I and set 245 to I-II configuration.

3. Dual Mono mode allows you to run the 244 engine on the left channel and the 245 on the right channel without any cross-feeding. For dense reverb set 244 and 245 engines to I-II. For sparse reverb tail select II-I mode for both engines.

In all modes Width and Balance work the same as in Mono-Stereo mode.

**245 out I-II / II-I switch** – selects how the 245 engine routes the signal to the plug-ins's Left and Right output channels. I-II is a default routing. II-I swaps the output channels' routing.

**MOD multiplier** – sets the reverberator's modulation depth. The default value is at the 12 o'clock position. Turning the trimpot clockwise leads to a strongly modulated and muddied effect. Turning the trimpot counter-clockwise reduces the modulation which results in reduced tail smoothness and a more resonant character to the reverberation tail.

Most algorithmic reverberators have some inherent modulation—sometimes noticeable, sometimes not. This is because the complexity of algorithmic reverbs is considerably simplified from an actual studio or hall environment. This is reflected in the number of resonances, or the pattern and mechanical character, of reverb tail reflections. To deal with these limitations, modulation is added to spread resonances and smooth out a tail pattern. Sometimes you may want this modulation to obvious on tracks, other times you may not, so we provide a parameter that will lessen or exaggerate the modulation in PSP 2445. The lower the modulation the more synthetic, resonant and grainy the reverb is—however chorusing is less noticeable. The higher the modulation level is set the less periodic the reverb tail is and is more blurred—at the expanse of exaggerated chorusing effects.

Try lowering the MOD multiplier counter clockwise from the 12:00 hardware default setting if a track naturally exaggerates the reverb's internal modulation. Set the MOD to a high value by turning it clockwise if you want to get a blurred tail with a highly noticeable warbling.

**Close button** – click to close the hidden parameters' flap.

**HPF** – sets the reverberation high pass filter to reduce the amount of low frequency content in the reverberated signal. The high pass filter is located on the input of the reverberation input.

**LOW** – adjusts the reverberation time for low frequency range.

**HIGH** – adjusts the reverberation time for high frequency range.

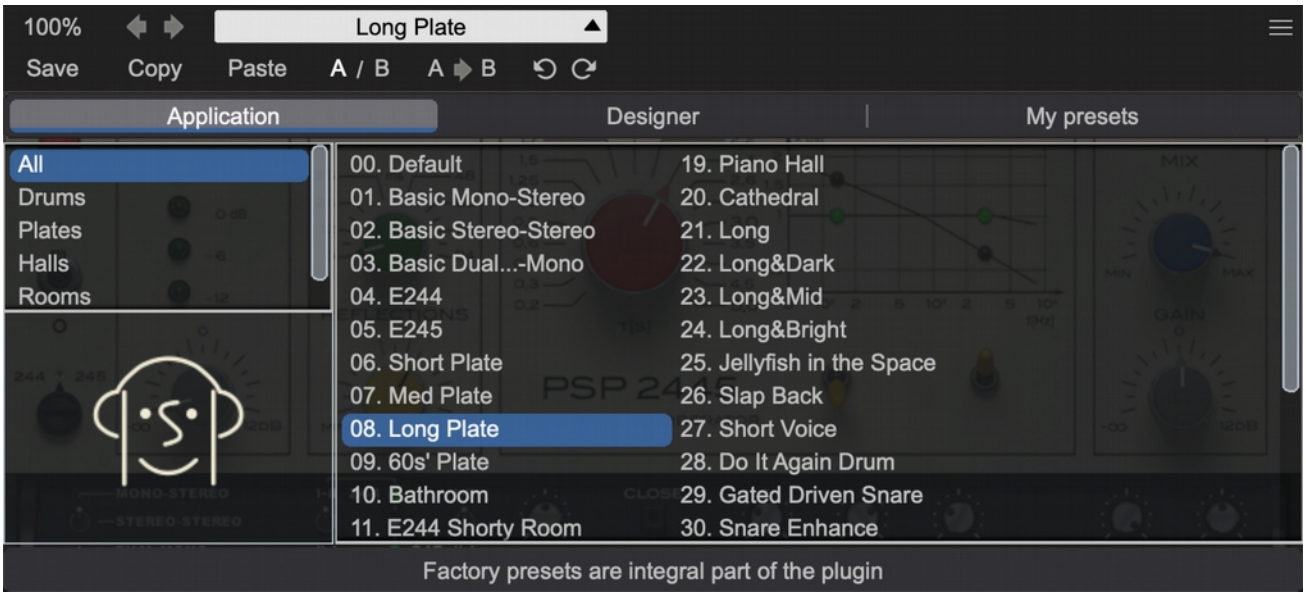
**WIDTH** – sets the stereo width of the reverberated signal.

**BALance** – sets the balance of the reverberated signal.

## Preset Handling & View Options

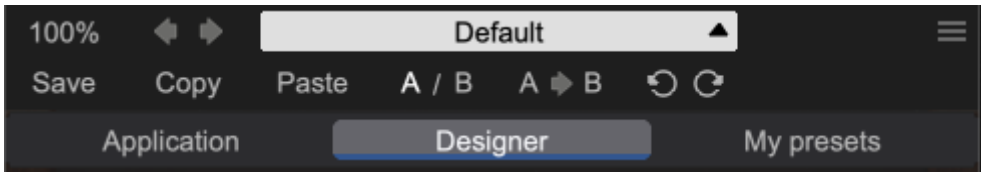
We provide all PSP plugins with a collection of factory presets. These presets can be used as a starting point for further adjustments, or for quick fixes.

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



## Preset Browser

The PSP 2445 EMT 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! 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 2445 EMT.
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 2445 EMT**

For Mac users, this is located at:

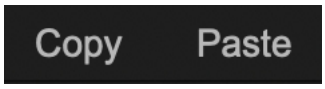
**~/Documents/PSPaudioware.com/User Presets/PSP 2445 EMT**

**< 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.

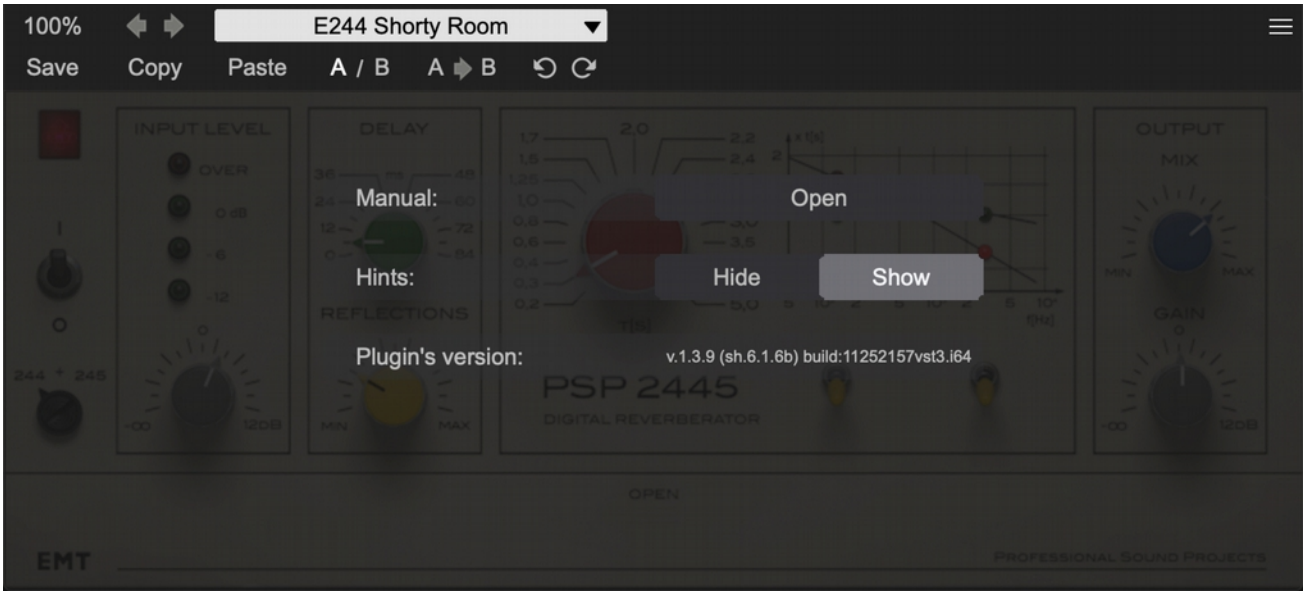
## 100% GUI resizing


Scroll (by the mouse wheel or use two finger to move 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 10.10 – macOS 12 Monterey
- 64-bit AudioUnit compatible host application

VST
- macOS 10.10 – macOS 12 Monterey
- 64-bit VST compatible host application

VST3
- macOS 10.10 – macOS 12 Monterey
- 64-bit VST3 compatible host application

AAX
- macOS 10.10 – macOS 12 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)

## Processing

- All internal processing done with 64 bit double precision floats.
- 32 and 64 bit floating point audio streams supported
- Sample rates up to 192kHz supported.

# 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 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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