Operation Manual
PSP HertzRider2

www.PSPaudioware.com

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Acknowledgements

Special thanks to Olli Niemitalo for his low latency 90 degrees phase shifting algorithm.

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

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End User License Agreement for PSP Software

PREFACE: This End-User License Agreement ("EULA") is a legal agreement between you and PSPaudioware.com s.c. (PSP) for the PSP product accompanying this EULA, which includes computer software and may include associated media, printed materials, and "online" or electronic documentation ("SOFTWARE"). By installing, copying, or using the SOFTWARE, you agree to be bound by the terms of this EULA. If you do not agree to the terms of this EULA, you may not use the SOFTWARE. The SOFTWARE is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE is licensed, not sold.

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MISCELLANEOUS: This EULA is governed by Polish law. Should you have any questions concerning this EULA, or if you wish to contact PSP for any reason, please write to:

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

PSP HertzRider2

PSP HertzRider2 is a frequency shifter plug-in. The PSP HertzRider2 is designed to be as simple as possible, to take as few resources as possible, and to incur only a very slight (and frequency dependent) latency.

So, what is a frequency shifter? Unlike a traditional pitch shifter which transposes the entire harmonic (or inharmonic) content of the signal by a given interval, a frequency shifter shifts any content by a given frequency. As an example: in a pitch shifter, shifting A 440Hz higher by one octave up would be 880Hz, its f2 at 880Hz would go up to 1760Hz, f3 at 1320Hz would go up to 2640 and so on. However, in the case of a frequency shifter, the A 440Hz may be shifted by +440Hz which results as 880Hz but when it comes to harmonics the f2 at 880Hz is shifted to 1320Hz (which is not an octave up of the fundamental any more) and f3 at 1320Hz is shifted to 1760Hz.

As you can see, a frequency shifter is a sort of weird tool. It can be an incredible tool for tuning inharmonic sounds like snares, and for harmonic sounds it becomes a creative and crazy destructive tool.

In addition to a wide range of shifting settings the algorithm contains an LFO (low frequency oscillator) to provide interesting modulation options allowing you to further creatively experiment with this tool.

Controls

PSP HertzRider2 – Click on the plug-in's name to reveal the about box. Click within the about box area to get back to the plug-in view.

Source Switch – Selects the input routing when the input signal is stereo. L selects the left input channel to be used for left and right shifting engine. R selects the right input channel to be used for the left and right shifting engine. The Stereo (middle) setting selects to be left input routed to the left engine and right input to be routed to the right engine.

Left and right numerical displays – Displays the positive or negative value of the frequency shift for a given engine.

Left and right Shift knobs – Controls the amount of frequency shift for each of engines. The set value is shown on the displays above the knobs. These knobs have a nonlinear response to help you dial in slight values around zero precisely.

Frequency shifting display – Shows the amount of shift up or down of both left and right shifting engines combined with the influence of the LFO.

Phase Reset button – Resets the frequency shifts of each channel and shifting phases. After this operation both channels are equally unshifted and remain so if the LFO is turned on; otherwise they detune immediately.

Range switch – Sets the range of knobs and the shift display. Available settings are 1kHz, 3kHz and 10kHz. The first one is the best choice for subtle effects while the last one is best for extreme effects.

Link switch – Selects whether the Shift knobs are unlinked (Off), linked and turning the same direction (+) or linked and turning the opposite direction (-).

LFO Type rotary switch – Selects the LFO mode, beginning with Off and followed by Sinus, Triangle, Wobble, Square, Saw Up, Saw Down. Wobble is a sort of smooth random response.

Rate knob – Controls the rate of the LFO signal in the range o 0.1 to 10Hz. When the SYNC button is engaged the Rate knob switches from the LFO rate in Hz to musical note values referenced to an audio host's tempo setting. The range of notes is from 16 whole notes to 1/16 including dotted "." notes and triplets "T".

SYNC button – enables the tempo host synchronisation mode and changes the function of the Rate knob from LFO rate to LFO note length.

Phase (fi) trim pot – controls the phase of the LFO in reference to host's song position in the SYNCed mode.

Depth knob – Sets the amount of LFO added to each of the values set with Shift knobs.

Spread knob – Controls the LFO phase spread to set up a shifting variation between both engines.

Spread LEDs – Indicates the LFO phase for each of engines.

In addition to LFO control the new PSP HertzRider2 has an **Envelope Eollower**. This new control operates in mono using internal or external side chain control signal..

ENVelope knob – controls the amount of positive or negative influence of the enveloper follower on the frequency shift in both channels.

Threshold trim pot – sets up the soft knee threshold for the envelope detector.

Mode button – toggles between three modes: Normal, Attack, Release.
When the envelope follower mode is in the Normal mode - both: attack and release times are controlled simultaneously with the "time" trim pot. When the Attack mode is select the attack time is set up bu the time trim pot and the release stays very short. When the Release mode is select the attack time is short and constant while the release time is adjusted by the time trim pot. Depending on the selection of the mode the envelope follower may provide a wide range of effects from soft frequency glide to razor sharp madness, from electronic tom drum sound to vinyl scratching.
Time trim pot - controls the time constant for the envelope follower's Attack, Release or both. The range is 10 to 4000ms.

Time trim pot – controls the time constant for the envelope follower's Attack, Release or both. The range is 10 to 4000ms.

Dry Defeat button – Disengages the dry (input) signal and the Mix knob resulting in only the wet signal on the output of the plug-in.

Bypass button – Engages the processing bypass button. The signal out of the plug-in is identical to the input signal when engaged.

Mix knob – Controls the amount of mix between the dry (input) and wet (processed) signals.

Output knob – Controls the output gain of the plug-in.

Preset Handling & View Options

We provided PSP plugins with a factory sets of presets. These included presets demonstrate the features of the plug-in and can help you to learn to use its controls. In addition, 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. Here you can select from among the factory presets, and load and save individual, as well as banks of presets.

100% MANAGE COMPARE	00: Default	◄ ► A/B	?

100%

Scroll this percentage up or down to change the GUIs zoom factor. Double click to reset its state to the default size (100%).

A single click on the percentage opens a menu with the following options:

- - decrease size
- + increase size
- *100%* click to see a popup menu with a few predefined zoom factors

MANAGE

Click to open this menu which contains common preset management options:

- *Save Bank* – stores all presets as a single *.psb bank file
- *Load Bank* – loads a *.psb bank file into all available preset slots
- *Save Preset* – stores the currently chosen preset as a standard *.psp file
- *Load Preset* - loads a preset from *.psp file into the currently chosen preset slot
- *Reset All To Factory* – double click to reset all presets to their initial factory state

COMPARE

Click to switch between the current parameter setup and the initial preset setting.

PRESET NAME

Click the preset name button to see the popup menu of all the presets in the currently loaded preset bank. Select a preset name to choose that preset from the list. Right-click the name of the preset to rename it.

PRESET SELECTION

Click on the left arrow when illuminated to switch to the previous preset in the list. Click on the right arrow when illuminated to switch to the next preset in the list.

A/B

Click to open a menu with MEMO A and MEMO B actions:

Both A and B are permanently stored on your disk. This allows you to compare alternative settings or share a preset between various instances of the plug-in in the same project or even between various projects. Click the left (red) arrow icon to save a preset to memo A or B.

Click the right (green) arrow icon to load a preset from memo A or B.

?

Click to open a menu with basic help options:

- *Open Manual* – choose this whenever you need to open the operation manual
- *Show Hints* – choose this to turn off/on the onscreen hints.

Side Chain Bar

We provided PSP plugins, especially processors, with the PSPaudioware standard SIDECHAIN BAR. You access it at the bottom of the plug-in interface. Here you can select (mix) the sidechain source and switch a plugin to the sidechain listening (cue) mode.

INTERNAL/EXTERNAL Mix
The INTERNAL/EXTERNAL Mix slider sets the proportion of internal to external signal in the final sidechain audio chanel.
If DAW don't providing the external sidechain source, the sidechain audio channel is always set to internal, independent of the mix slider position.

INTERNAL
Click to quick set 100% of internal source.

EXTERNAL
Click to quick set 100% of external source.

MONITOR
Click to switch a plugin to the side chain listening (cue) mode.
If it is on, you hear the side chain audio which is processing by a plugin and all area of a plugin GUI is covered by the amber colored shell, only for information that the side chain input is being monitored.

SIDE CHAIN LEVEL METER
Show the signal level of the side chain input.

Trial Activation Instructions

In order to run a plug-in in 30 day demo mode, you need an **iLok user ID** which you can create free at https://www.ilok.com/, and you need to install the free **iLok License Manager** application.
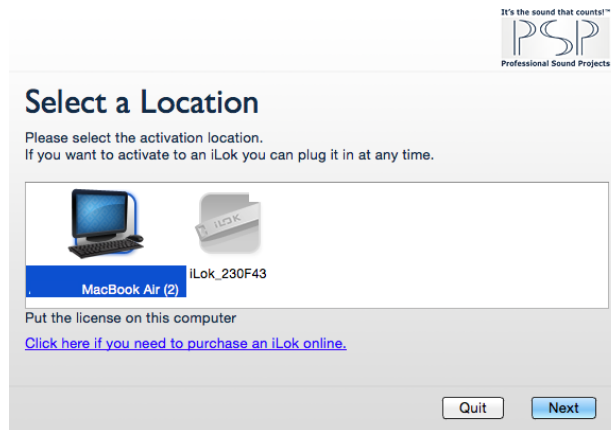A hardware USB iLok dongle is **NOT** required, however it is optional.

1. Run the installer on your computer and follow the steps to complete the installation.
2. Launch your host application (Pro Tools, Logic, Cubase, Sonar, Live etc.), which will scan your plug-ins and prompt you with an activation window.
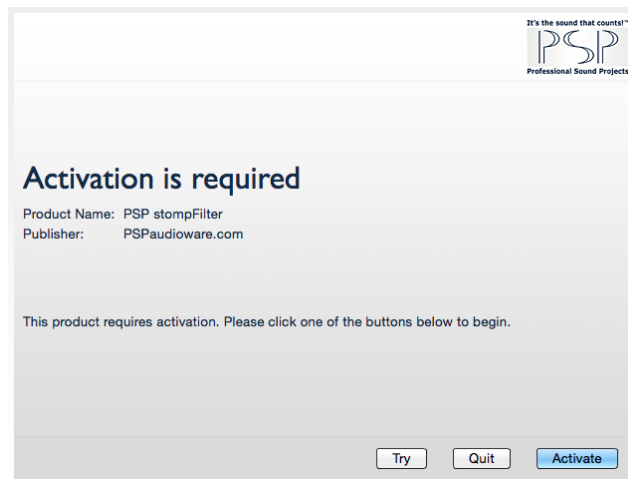
3. To run a plug-in demo click "Try" in the PSP activation window and then enter your iLok account details.
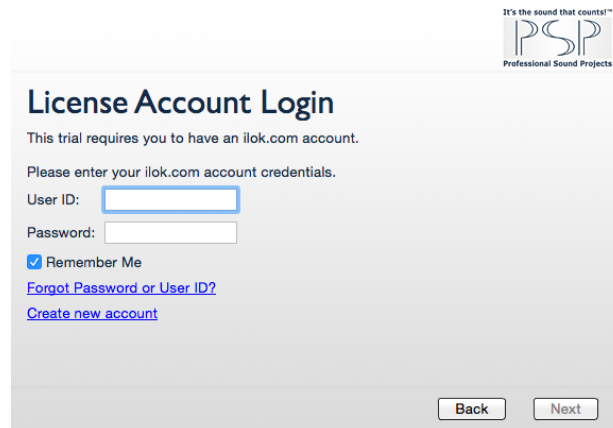
4. Select the activation location. You can activate the license in three separate locations, each of which can be either a computer or an iLok dongle (2nd generation or above). You can move these licenses at any time using PACE's iLok License Manager software.

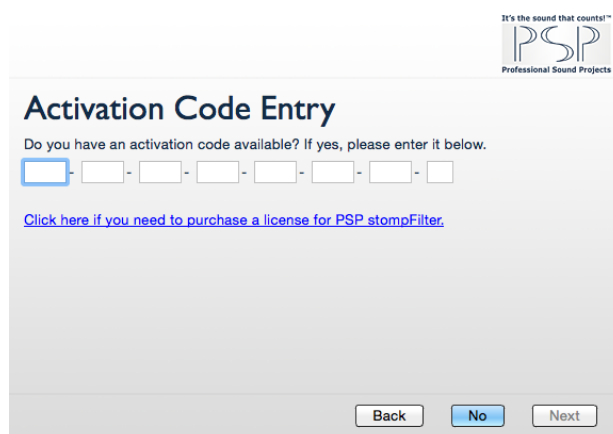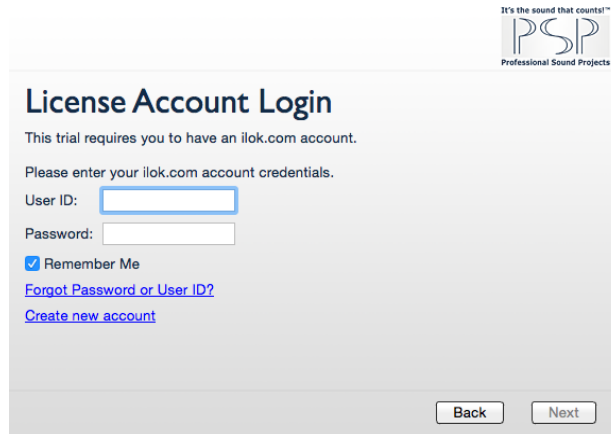5. Enjoy using our plug-in for next 30 days without any limitation!

Full Version Activation Instructions

In order to activate the plug-in, you need an **iLok user ID** which you can create for free at https://www.ilok.com/, and you need to install the free **iLok License Manager** application. A hardware USB iLok dongle is **NOT** required, however it is optional.

1. Download the PSP installer from your PSP user area account.
2. Run the installer on your computer and follow the steps to complete the installation.
3. Launch your host application (Pro Tools, Logic, Cubase, Sonar, Live etc.), which will scan your plug-ins and prompt you with an activation window.
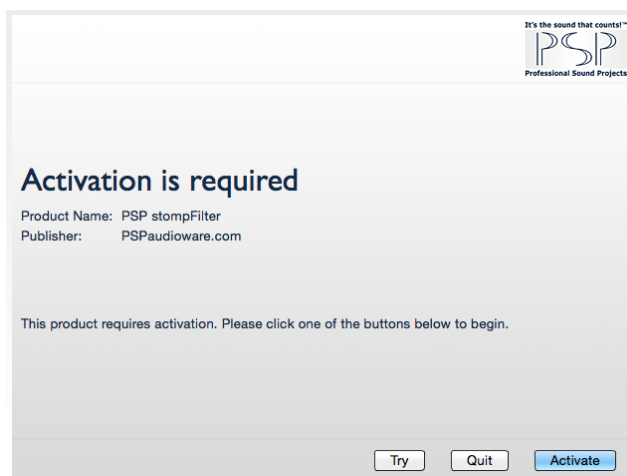
4. Click the **Activate** button and enter your activation code, which is listed in the product table for your account in our user area (in the column authorization details). Click next.
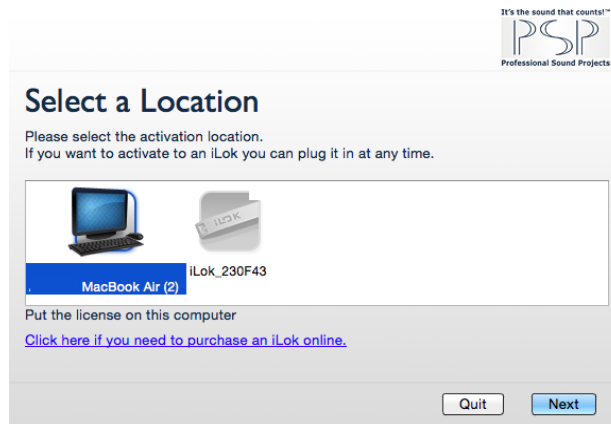
5. Type in your iLok account user ID and password. Click next.

6. Select the activation location. You can activate the license in three 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.

7. Activation is complete. Enjoy using our plug-ins! We hope you find them useful in your productions.

Specifications

- Double precision floating point computations.

- Supports project sample rates up to 384 kHz.

- Uses an internal sample rate of 44.1 kHz for source material with sample rates of 44.1, 88.2, 176.4 or 352.8 kHz.

- Uses an internal sample rate of 48 kHz for source material with sample rates of 48, 96, 192 or 384 kHz.

- 0, -3 dB bandwidth for internal 44.1 kHz sample rate ranges from 25 Hz to 15 kHz

- 0, -3 dB bandwidth for internal 48 kHz sample rate ranges from 30 Hz to 16 kHz

Minimum System Requirements

PC

VST3

- Windows x64 (7, 8 or 10)
- VST3 compatible application

VST

- Windows x64 (Vista, 7, 8 or 10)
- VST 2.4 compatible application

AAX

- Windows x64 (7 or 10)
- Pro Tools 11, 12 or Pro Tools HD 11, 12 or Pro Tools 2018

All DAWs

- Up to date iLok License Manager application installed

Mac

AudioUnit

- Mac OSX 10.8 - 10.12 or later
- 64-bit compatible host application

VST

- Mac OSX 10.8 - 10.12 or later
- 64-bit VST 2.4 compatible host application

VST3

- Mac OSX 10.8 - 10.12 or later
- 64-bit VST 2.4 compatible host application

AAX

- Mac OSX 10.8 - 10.12 or later
- Pro Tools 11, 12 or Pro Tools HD 11, 12 or Pro Tools 2018

All DAWs

- Up to date iLok License Manager application installed

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Support

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

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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