

PSP VintageWarmer2



www.PSPaudioware.com

Acknowledgements

We would like thank the following people:

Sakis Anastopoulos - DigisoundMastering, Victoria, Australia
George Daly - CEO ABOVE Records, California, USA
Mat Jarvis - Gas Studios, Nottingham, England
Orren Merton – freelance writer, musician, California, USA
Ted Perlman - Ted Perlman Productions, California, USA
Murray Seymour - Synergy Recording, Withcott, Australia
Chris Share - freelance writer, musician, Victoria, Australia
Tammo Trüper - Bluelife Audiozone, Bremen, Germany
Joeri Vankeirsbilck - Belway Productions, Brussels, Belgium
Peter Willems - Webmaster Orion-central

“PSP”, the PSP logo, “PSP VintageWarmer”, and “It’s the sound that counts!” are trademarks of PSPaudioware.com s.c. All other trademarks are the property of their respective owners.
© 2002 - 2022 PSPaudioware.com s.c.

Table of Contents

Table of Contents

- PSP VINTAGEWARMER2.....1**
- ACKNOWLEDGEMENTS.....2**
- TABLE OF CONTENTS.....3**
- END USER LICENSE AGREEMENT.....5**
- PSP VINTAGEWARMER & PSP VINTAGEWARMER2 & PSP MICROWARMER. 6**
 - OVERVIEW..... 6
 - FEATURES..... 6
 - APPLICATIONS..... 6
- MINIMUM SYSTEM REQUIREMENTS.....8**
 - PLUG-IN LATENCY..... 9
- PSP VINTAGEWARMER & PSP VINTAGEWARMER2 CONTROLS.....10**
 - FRONT PANEL CONTROLS..... 10
 - Meters, Indicators and Display.....10
 - Knobs.....11
 - Buttons.....12
 - Switches.....12
 - REAR PANEL CONTROLS..... 14
- PSP MICROWARMER CONTROLS.....16**
 - FRONT PANEL CONTROLS..... 16
 - Meters, Indicators and Display.....16
 - Knobs.....17
 - Switches.....17
 - REAR PANEL CONTROLS..... 18
- OPERATION.....20**
 - WORKING WITH METERS..... 20
 - USING THE LOW, MID AND HIGH BAND PARAMETERS..... 20
- PRESET HANDLING & VIEW OPTIONS.....21**
 - PRESET BROWSER..... 21
 - COPY/PASTE..... 22
 - A/B SYSTEM..... 23
 - UNDO / REDO..... 23
 - 100% GUI RESIZING..... 23
 - CONFIG SECTION..... 23

BLOCK DIAGRAMS.....	24
SINGLE-MODE BLOCK DIAGRAM FOR PSP VW & PSP VW2.....	24
MULTI-BAND MODE BLOCK DIAGRAMS FOR PSP VW & PSP VW2.....	25
SINGLE BAND BLOCK DIAGRAM FOR PSP MICROWARMER.....	26
QUESTIONS AND ANSWERS.....	27
SUPPORT.....	30

End User License Agreement

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.

LICENSE: You can INSTALL and USE the current version of the SOFTWARE, or in its place any prior version, on three computers simultaneously so long as you are the direct user or a studio client of those machines. If more users USE the software you must buy an additional license for each workstation. The DEMO VERSION of the SOFTWARE is NOT LICENSED FOR COMMERCIAL USE.

RESTRICTIONS: You may not transfer, modify, rent, lease, loan, resell, distribute, network, electronically transmit or merge the SOFTWARE. You may not reverse engineer, decompile or disassemble the SOFTWARE, or otherwise attempt to discover the SOFTWARE source code. You are not permitted to copy the SOFTWARE or any of the accompanying documentation.

COPYRIGHTS: All title and copyrights in and to the SOFTWARE (including but not limited to any images, photographs, animations, video, audio, music, text, and “applets” incorporated into the SOFTWARE), the accompanying printed materials, and any copies of the SOFTWARE are owned by PSP. The SOFTWARE is protected by copyright laws and international treaty provisions. Unauthorized reproduction or distribution of the SOFTWARE or documentation is subject to civil and criminal penalties.

DISCLAIMER OF WARRANTY: The SOFTWARE is provided “AS IS” and without warranty of any kind. The entire risk arising out of the use or performance of the SOFTWARE and documentation remains with user. To the maximum extent permitted by applicable law, PSP further disclaims all warranties, either express or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with regard to the SOFTWARE, and any accompanying hardware. To the maximum extent permitted by applicable law, in no event shall PSP be liable for any consequential, incidental, direct, indirect, special, punitive, or other damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of this EULA or the use of or inability to use the SOFTWARE, even if PSP has been advised of the possibility of such damages.

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 VintageWarmer & PSP VintageWarmer2 & PSP MicroWarmer

Overview

PSP VintageWarmer and **PSP VintageWarmer2** are high-quality digital simulations of an analog-style single- or multi-band limiter. These plug-ins combine rich, warm analog-like processing with a straightforward user interface, and come with a comprehensive library of presets. The plug-in processors are highly flexible and can be used for both soft knee compression and brick-wall limiting and to add a unique density and character to a track as well. This makes them essential tools for mixing and mastering engineers.

PSP MicroWarmer is a simplified version of the VintageWarmer and it is designed to be an individual track solution or of use whenever you don't need a full frequency control and the multi-band mode of PSP VintageWarmer. The processing engine of the PSP MicroWarmer has no sound quality compromises compared to the Single Band mode of the PSP VintageWarmer and can be used to limit the level or to add a unique density and character to individual tracks with the same excellent results. In addition, this version has the lowest possible latency of all Warmers.

Careful attention has been paid to PSP VintageWarmer's overload characteristics with the processor being capable of generating saturation effects typical of analog tape recorders.

PSP VintageWarmer and PSP VintageWarmer2 and PSP MicroWarmer also incorporate professional VU and PPM metering together with accurate overload indicators, thereby assuring professional results.

PSP VintageWarmer2 includes PSPaudioaware's proprietary Frequency Authentication Technique (FAT) – a high quality double sampled processing mode for even more analog-like processing. Both versions provide 64-bit floating point processing for accurate mathematical precision, extended band release time range mode, user-selectable brick wall processing, automatic release adjustments for an even smoother response and plenty of other under-the-hood improvements making this plug-in an even more versatile and advanced tool!

Features

- » High quality signal processing algorithms
- » Single or multi-band signal processing
- » FAT (Frequency Authentication Technique) PSP's double sampled processing
- » 64-bit, double precision floating point processing
- » Shelf filters for bass and treble frequencies in single-band processing mode
- » Control of bass and treble signal components in multi-band processing mode
- » Accurately calibrated VU and PPM meters with overload indicators
- » User-selectable brick-wall limiting
- » Two Release Mutliplier ranges for fast or relaxed processing
- » Semi-Automated Release mode.
- » Up to 192kHz sample rates supported
- » Library of presets
- » Lowest possible latency PSP MicroWarmer version suitable for live processing
- » Low latency PSP VintageWarmer version suitable for mixing
- » PSP VintageWarmer2 with FAT mode suitable for advanced processing of leading tracks and for mastering.

Applications

- » Optimizing the ‘density’ and average signal levels of recordings during mixing or mastering
- » Shaping the dynamics of recordings during mixing
- » Adding warmth to individual tracks or complete mixes
- » Adding analog tape-style compression to individual tracks or complete mixes

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)

AudioUnit

- macOS 10.10 – macOS 12.01 Monterey
- 64-bit AudioUnit compatible host application

VST

- macOS 10.10 – macOS 12.01 Monterey
- 64-bit VST compatible host application

VST3

- macOS 10.10 – macOS 12.01 Monterey
- 64-bit VST3 compatible host application

AAX

- macOS 10.10 – 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)

VST, VST3 are trademarks and software of Steinberg Media Technologies GmbH. Pro Tools, AAX and RTAS are trademarks or registered trademarks of Avid Technology, Inc. AudioUnit, OSX, macOS Silicon are trademarks of Apple Inc.

Plug-in Latency

In order to achieve the highest quality results, PSP VintageWarmer, PSP VintageWarmer2 and PSP MicroWarmer require a buffer containing a number of samples in order to process your audio material properly.

In the case of PSP MicroWarmer the amount of samples needed was kept purposefully small and results in a delay around 1.5ms, depending on the sample rate of the audio. The resulting latency is half of the PSP VintageWarmer's latency. This means that PSP MicroWarmer is especially suited for all purposes when the low latency matters including tracking and live processing.

In the case of the PSP VintageWarmer the amount of samples needed was kept purposefully small and results in a delay around 3ms, depending on the sample rate of the audio. This means that PSP VintageWarmer can be used while tracking.

In the case of PSP VintageWarmer2 the latency is considerably larger—closer to around 15ms, depending on sample rate. This is because of the precise FIR (finite impulse response) filters used for FAT double sampling. Due to the larger latency of the PSP VintageWarmer2 we recommend this version for mastering purposes.

That said, most modern DAWs include plug-in delay compensation, which eliminates the effect of the delay incurred by PSP VintageWarmer and PSP VintageWarmer2 on playback. PSP VintageWarmers fully support the latency compensation of all host DAWs (meaning, the plug-ins accurately report the samples of delay they require to the host). Note that some host DAWs have limitations regarding delay compensation, so be sure to refer to your DAW's user guide for more information. For your convenience the latency of each plug-in is reported at the bottom of the editor window in both samples and milliseconds.

PSP VintageWarmer & PSP VintageWarmer2 Controls

Front Panel Controls

PSP VintageWarmer's and PSP VintageWarmer2's front panel has been designed to be as easy to use as possible. All essential user interface features including displays, knobs and switches are located on the front panel.



Meters, Indicators and Display

[VU Meters]

PSP Vintage Warmer's analog-style meters indicate VU levels. Normally the meter scale ranges from -20 dB to +3 dB, however this can be switched to a wider range (-40 dB to +6 dB). The meters have an adjustable integration time (300ms by default), which gives standard analog VU needle ballistics. By default, the 0VU reading refers to a -18dBFS sine wave which refers to +4dBu for converters giving +22dBu at 0dBFS, however this can also be adjusted. The controls to adjust these settings are in the rear panel. See the *Rear Panel Controls* section of this manual for more information.

The meters can also be switched to PPM mode with adjustable integration and release times. You can switch the meters between VU and PPM mode using the switch between the two meters, and you can adjust the integration times and VU reference level using the rear panel controls. See the *Rear Panel Controls* section of this manual for more information.

The meters contain overload LEDs which, by default, react to three or more samples equal or greater than 0dBFS. The overload counter can be adjusted on VintageWarmer's rear panel. See the *Rear Panel Controls* section of this manual for more information. After an overload occurs, the LED fades out, however it remains a dark red color. This indicates that an overload has occurred. Click on the LED to reset it.

[Pre/G.R./Post]

The Pre/G.R./Post switch determines the point in the processing chain at which the meters measure the audio signal. "Pre" mode shows the signal level after equalization in the 'Pre' mode. "G.R." (a default state) shows the signal gain reduction. "Post" mode shows the signal level after all processing and the Output knob. In all modes needle movement depends on the current operating mode (VU or PPM).

[Parameter Display]

The Parameter Display shows the value of the knob currently being operated. It shows an appropriate unit for the current parameter (dB, % or Hz), and no unit for the Release multiplier. The Parameter Display also shows the current value when you mouse over a knob. In some hosts, however, it may be necessary to click on a knob in order for its value to be shown in the display. Double click on any of front panel knobs to open an edit box that appears on the Parameter Display.

Knobs

[Drive]

The Drive knob sets the input level for the limiter. It can range from -24dB to +24dB. It is active when the red switch is in the 'On' position. The default value is 0dB.

[Knee]

The Knee knob sets the knee range of the limiter. The 0% setting indicates that the knee is "bent" at 0dB, ("hard knee") which is suitable for limiting. Mid range settings can be used to create analog tape-style effects. The 100% setting provides a wide-range soft knee for deep and fast compression. The default value is 50%.

[Speed]

The Speed knob sets the compressor's combined attack and release times. The name refers to tape speed. A setting of 0 refers to a very slow tape speed resulting in very fast limiter/compress time setting, while a setting of 100 refers to the highest available tape speed which results in a smooth and very slow limiter/compressor timing. The default value is 50%.

[Release]

The Release knob is a multiplier control that sets the release time relative to the Speed setting. The default value is "x1".

[Ceiling]

The Ceiling knob allows PSP VintageWarmer to operate at a maximum level other than 0dBFS. This control is designed to prevent normalized input signals from exceeding 0dBFS even if the Ceiling is set at more than 0dBFS. The Ceiling control interacts with the low, mid and high saturation level adjustments in the rear panel. Its settings might not look adequate in multi-band mode because the Ceiling doesn't refer to all limiting stages in this mode. This can result in momentary overshoots of the setup Ceiling value when it is set lower than 0dBFS. The default value is 0dB.

[Mix]

The Mix knob allows the input signal and compressed signal to be mixed in any proportion. If the Mix knob is set at 0%, signals pass through VintageWarmer / VintageWarmer2 unaltered. The default value is 100%. When the plug-in is used to add a character or for compression purposes it is worth trying values in the range of 30%-60% to provide enough processing and density while letting transients to get through it

[Output]

The Output knob sets the final output signal level. This is the last operation in the signal chain. The default value is 0dB.

[High Freq]

When VintageWarmer / VintageWarmer2 is in 'Single Band' mode, the High Freq knob sets the high-shelving equalization frequency. In 'Multi-Band' mode, the control sets the crossover frequency for the high band. The default value is 4kHz.

[High Adjust]

The High Adjust knob sets the high shelving (Single Band) or the high-band pre-limiter gain (Multi-Band). The default value is 0dB.

[Low Freq]

When VintageWarmer / VintageWarmer2 is in ‘Single Band’ mode, the Low Freq knob sets the low shelving equalization frequency. In ‘Multi-Band’ mode, the control sets the crossover frequency for the low band. The default value is 100Hz.

[Low Adjust]

The Low Adjust knob sets the low shelving (Single Band) or the low-band pre-limiter gain (Multi-Band). The default value is 0dB.

Buttons

The buttons’ lit (bright) state corresponds to the engaged (ON) state. The grey state corresponds to the disengaged (OFF) state.

[Auto]

The Auto-release button configures PSP VintageWarmer / VintageWarmer2 to automatically readjust the release time to more accurately follow the track content. This results in a smoother sound and lower distortion compared to standard mode. The release is continuously readjusted based on the manually configured Speed and Release Multiplier parameters.

[Long]

The Long-release button configures PSP VintageWarmer / VintageWarmer2 to work within the extended Release Multiplier range. In fact, the scale of the Release Multiplier knob starts at the point where its range ends in standard mode, resulting in a 16 times longer release phase compared to standard mode.

[Brick Wall]

This button turns on and off the PSP VintageWarmer / VintageWarmer2 output brick wall clipping in the output limiter in the Single Band mode or the entire output limiter in the Multi Band mode. When engaged, absolutely no transients over 0dBFS will occur.

Switches

[On / Off]

The On/Off switch turns the processor on and off. When the processor is off, all processing routines are bypassed except for the VU metering.

[Off / FAT] PSP VintageWarmer2 only

Setting this switch to FAT engages PSP Audioware’s proprietary Frequency Authentication Technique (FAT) algorithm. This is the same high quality double sampling algorithm we introduced in our mastering processors, PSP MasterComp, PSP MasterQ, PSP Xenon and PSP Neon HR. When this switch is set to FAT, PSP VintageWarmer2 sounds even more analog-like, with less aliasing artifacts when the PSP VintageWarmer2 is driven hard into distortion. Please also note that when FAT is engaged the equalizer/crossover filters behave in a more “analog” way compared to non-FAT mode. This results in serious sonic differences during high frequency shelving in Single Band mode or in the high frequency band in Multi-Band mode. Keep in mind, however, that FAT mode uses more than double the CPU resources that the same settings in standard mode uses.

and it forces the PSP VintageWarmer2 to use large processing buffers—hence the high overall latency of this plug-in.

[Single Band / Multi Band]

The Single Band / Multi Band switch selects VintageWarmer or VintageWarmer2's limiting mode. In “Single Band” mode, the processor functions across the full frequency range allowing tape emulation effects with shelving equalization. This mode is preferable for single tracks or to add tape like processing to the entire track. The result is a coherent and dense sound with noticeable distortion. In “Multi Band” mode, the processor acts as a three-band, soft-knee limiter that offers pre-limiter level adjustment with a Drive knob and fourth hard limiter for the combined output working as a brick wall limiter. This mode is preferable for smooth and transparent processing of entire mixes or complex tracks.

[Mono / L / R / Stereo]

This switch sets VintageWarmer / VintageWarmer2's channel routing. When in Mono mode, only the first channel is processed. After processing the signal is sent to both outputs. In L or R mode only one channel is processed which allows you to use two instances of the VintageWarmer for unlinked processing with independent settings for left and right channel. In the stereo mode, both channels are processed. Stereo mode is not recommended for use with mono signals because it consumes extra CPU power.

Please note that due to a backward compatibility issues this button is split into two parameters in the automation. To cover all states of this control properly a new LR parameter was added to the existing MonoStereo parameter.

[Link off / Link on]

The Link off / Link on switch links and unlinks Vintage Warmer's two channels. When linked, each channel is processed with a common level detector which results in properly processed stereo field. Unless the signal requires correction, the Link on option is preferred for stereo processing. In the unlinked mode channels are processed with common settings but separate level detectors are used for each channel. Unlinked mode increases the amount of CPU power used for processing.

Rear Panel Controls

Clicking on the PSP VintageWarmer or PSP VintageWarmer2's bottom logo opens the Rear Panel window with its preference and algorithm settings, as well as the about box with the registration name. To return to the front panel, click on the about box.

Preference parameters allow you to adjust the behavior of the meters, LEDs and the knob mode. Those parameters are not stored within a session or preset – they are loaded for all instances on insertion. Preference settings are stored from the last plug-in's instance being closed so if you change those parameters, it is recommended to remove the plug-in from the insertion point.

The Saturation and Release settings refer to the multi-band processing mode and are stored within a current program or a session. The same refers to the Fine adjustment parameter.



[Low, Mid, High Saturation] Multi Band mode only

The Low, Mid and High Saturation knobs set the saturation levels for each of the three frequency bands when VintageWarmer / VintageWarmer2 is in multi-band processing mode. Together with the front-panel Ceiling knob, these knobs set the maximum level for each frequency band.

The default value is 0dB for each knob. Negative values result in a lower band ceiling giving more compression and less processing in the final output brick wall limiter, values greater than 0dB gives less band processing and more job to the output limiter.

The range for those knobs is ± 6 dB in PSP VintageWarmer. This range has been increased in PSP VintageWarmer2 to ± 12 dBs for each band. The new range offers extra control for proper driving of the output brick wall limiter.

[Low, Mid, High Release] Multi Band mode only

The Low, Mid and High Release knobs set the release multiplier for each of the three frequency bands when VintageWarmer is in Multi Band processing mode. Together with the front-panel Release knob, these knobs set the release time for each frequency band. Note that Release and band release parameters are multiplied. The default value is x1 for each knob. The adjustment ranges in the PSP VintageWarmer are x0.25 to x4 and have been increased in PSP VintageWarmer2 to x0.0625 to x16 allow for deeper control over low and high frequency band release responses.

[VU Integration Time]

The VU Integration Time knob sets the ballistics of the meter's VU needles. The default value is 300ms. This value is stored as a preference setting and is common to all newly opened instances after the plug-in is removed or the session is closed.

[0VU Reference Level]

The 0VU Reference Level knob sets the sine wave reference level. The default value is -18dBFS which corresponds to +4dBu on a converter calibrated to +22dBu at 0dBFS. This value is stored as a preference setting. The meter is calibrated with a sine wave which means that when the reference is set to 0VU and the 0dBFS sine wave is used the indicated value is 0VU and equals the peak level of the sine wave. With modern highly compressed mixes it is possible that the reference level would have to be set to -12 or even -10dBFS for proper VU reading.

[VU Reset button]

The VU Reset button recalls factory default settings for both VU parameters. Please double click on this button to reset.

[PPM integration time]

The PPM integration time knob sets the attack ballistics for the PPM meters. The default value is 10ms. If you want to set the meter in the PPM mode to indicate a digital peak level simply set the integration time to 0. This value is stored as a preference setting.

[PPM return time]

The PPM return time knob sets the return ballistics for the PPM meters. The default value is 2000ms. Recommended values are between 1 and 2 seconds. This value is stored as a preference setting.

[PPM Reset button]

The PPM Reset button recalls factory default settings for both PPM parameters. Please double click on this button to reset.

[Overs counter]

The Overload counter knob sets the number of overloaded (equal or greater than 0dBFS) samples which makes the overload LEDs light. The default value is 3 samples. This value is stored as a preference setting.

[Overs Reset button]

The Overs Reset button recalls factory default settings for the Overs counter parameter. Please double click on this button to reset.

[Fine adjust]

The Fine adjust knob allows the user to set different operating ranges for the Drive, Low Adjust, High Adjust, Ceiling and Output parameters. Note that Ceiling and Output fine multipliers are counted in a different way to the other knobs, and that the percentage shown under the control does not equal the multiplier values for those controls. The default value is 100%.

[Knob Mode]

The Knob Mode switch sets the knob movement mode to either linear or circular. The default setting is linear. This value is stored as a preference setting.

PSP MicroWarmer Controls

Front Panel Controls

PSP MicroWarmer's front panel has been designed to be as easy to use as possible. All essential user interface features including displays, knobs and switches are located on the front panel.



Meters, Indicators and Display

[VU Meters]

PSP MicroWarmer's analog-style meters indicate VU levels. Normally the meter scale ranges from -20 dB to +3 dB. The meters have an adjustable integration time (300ms by default), which gives standard analog VU needle ballistics. By default, the 0VU reading refers to a -18dBFS sine wave, which refers to +4dBu for converters giving +22dBu at 0dBFS, however this can also be adjusted. The controls to adjust these settings are in the rear panel. See the *Rear Panel Controls* section of this manual for more information.

The meters can also be switched to PPM mode with adjustable integration and release times. You can switch the meters between VU and PPM mode using the switch between the two meters, and you can adjust the integration times and VU reference level using the rear panel controls. See the *Rear Panel Controls* section of this manual for more information.

The meters contain overload LEDs which, by default, react to three or more samples equal or greater than 0dBFS. The overload counter can be adjusted on MicroWarmer's rear panel. See the *Rear Panel Controls* section of this manual for more information. After an overload occurs, the LED fades out, however it remains a dark red color. This indicates that an overload has occurred. Click on the LED to reset it.

[Pre/G.R./Post]

The Pre/G.R./Post switch determines the point in the processing chain at which the meters measure the audio signal. "Pre" mode shows the signal level after equalization in the 'Pre' mode. "G.R." (a default state) shows the signal gain reduction. "Post" mode shows the signal level after all processing and the Output knob. In all modes needle movement depends on the current operating mode (VU or PPM).

[Parameter Display]

The Parameter Display shows the value of the knob currently being operated. It shows an appropriate unit for the current parameter (dB, % or Hz), and no unit for the Release multiplier. The Parameter Display also shows the current value when you mouse over a knob. In some hosts, however, it may be necessary to click on a knob

in order for its value to be shown in the display. Double click on any of front panel knobs to open an edit box that appears on the Parameter Display.

Knobs

[Drive]

The Drive knob sets the input level for the limiter. It can range from -24dB to +24dB. It is active when the red switch is in the 'On' position. The default value is 0dB.

[Knee]

The Knee knob sets the knee range of the limiter. The 0% setting indicates that the knee is "bent" at 0dB, ("hard knee") which is suitable for limiting. Mid range settings can be used to create analog tape-style effects. The 100% setting provides a wide-range soft knee for deep and fast compression. The default value is 50%.

[Speed]

The Speed knob sets the compressor's combined attack and release times. The name refers to tape speed. A setting of 0 refers to a very slow tape speed resulting in very fast limiter/compress time setting, while a setting of 100 refers to the highest available tape speed which results in a smooth and very slow limiter/compressor timing. The default value is 50%.

[Release]

The Release knob is a multiplier control that sets the release time relative to the Speed setting. The default value is "x1".

[Output]

The Output knob sets the final output signal level. This is the last operation in the signal chain. The default value is 0dB.

[High Adjust]

The High Adjust knob sets the high shelving (Single Band) or the high-band pre-limiter gain (Multi Band). The default value is 0dB.

[Low Adjust]

The Low Adjust knob sets the low shelving (Single Band) or the low-band pre-limiter gain (Multi Band). The default value is 0dB.

Switches

[On / Off]

The On/Off switch turns the processor on and off. When the processor is off, all processing is bypassed except for the VU metering.

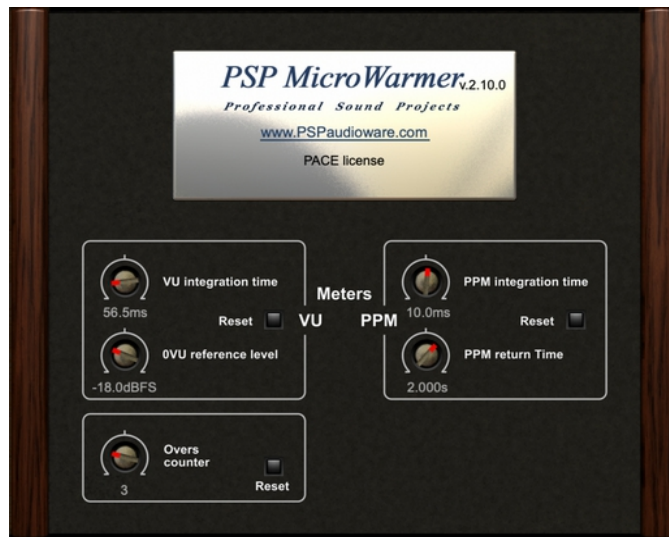
[Mono / Stereo]

This switch sets PSP MicroWarmer's channel routing. When in Mono mode, only the first (left) channel is processed. After processing it is sent to both outputs (to one output in mono-mono inserts). In the stereo mode, both channels are processed. Stereo mode is not recommended for use with mono signals because it consumes extra CPU power.

Rear Panel Controls

Clicking on the PSP MicroWarmer's bottom logo opens the Rear Panel window with its preference settings and the about box as well. To return to the front panel, click on the about box.

Preference parameters allow you to adjust the behavior of the meters and LEDs. Those parameters are not stored within a session or preset—they are loaded for all instances on insertion. It can take up to 10s to synchronize a preference parameter across all Warmers whenever it is adjusted.



[VU Integration Time]

The VU Integration Time knob sets the ballistics of the meter's VU needles. The default value is 300ms. This value is stored as a preference setting and is common to all newly opened instances after the plug-in is removed or the session is closed.

[0VU Reference Level]

The 0VU Reference Level knob sets the sine wave reference level. The default value is -18dBFS which corresponds to +4dBu on a converter calibrated to +22dBu at 0dBFS. This value is stored as a preference setting. The meter is calibrated with a sine wave which means that when the reference is set to 0VU and the 0dBFS sine wave is used the indicated value is 0VU and equals the peak level of the sine wave. IWith modern highly compressed mixes it is possible that the reference level would have to be set to -12 or even -10dBFS for proper VU reading.

[VU Reset button]

The VU Reset button recalls factory default settings for both VU parameters. Please double click on this button to reset.

[PPM integration time]

The PPM integration time knob sets the attack ballistics for the PPM meters. The default value is 10ms. If you want to set the meter in the PPM mode to indicate a digital peak level simply set the integration time to 0. This value is stored as a preference setting.

[PPM return time]

The PPM return time knob sets the return ballistics for the PPM meters. The default value is 2000ms. Recommended values are between 1 and 2 seconds. This value is stored as a preference setting.

[PPM Reset button]

The PPM Reset button recalls factory default settings for both PPM parameters. Please double click on this button to reset.

[Overs counter]

The Overload counter knob sets the number of overloaded (equal or greater than 0dBFS) samples which makes the overload LEDs light. The default value is 3 samples. This value is stored as a preference setting.

[Overs Reset button]

The Overs Reset button recalls factory default settings for the Overs counter parameter. Please double click on this button to reset.

Operation

Working with meters

PSP VintageWarmer / VintageWarmer2 / PSP MicroWarmer's meters operate similarly to analog VU and PPM meters (as do their over indicators). To ensure that they can be used as a useful tool in every situation we allow you to adjust the meters' behavior to nearly every real-world situation. To learn more about those adjustable parameters please see the *Rear Panel Controls* section of this manual.

Standard VU meters are specified to work with a 300ms integration time; every other integration time setting will not accurately reflect the standard VU time response, but this allows you to tailor the meter integration time to your particular needs. For example, depending on your material, it is possible that average values between 400 and 600ms might allow for smoother reading. As the VU meter shows a kind of average level, it has to be also level calibrated to be useful for real applications.

In normal situations the VU meter shows -14dB value relative to peak value. That is why mastering and post production engineers decided to use it as a reference average level for music. The modern practice of using extremely hot level results in RMS and average levels that are much closer to peak value. For this reason, we decided to give a user such a wide reference level adjustment range.

PPM meters are Pseudo Peak Meters. They show the level value very close to digital peak values. Typically they have 10ms attack and about 1000-2000ms release times. In many cases they are more practical than Digital peak meters. The attack time of 10ms allows to omit unnoticeably short transients while properly indicating the overall level envelope. These meters also offer perfect digital peak metering if you set the attack to 0ms.

Using the Low, Mid and High band parameters

PSP VintageWarmer / VintageWarmer2 allows you to finely control some deep parameters for the multi-band processing algorithm. These are the Low, Mid and High Saturation levels and the Low, Mid and High Release multipliers.

Low, Mid and High Saturation levels are related to the Ceiling parameter on the front panel. This means that the user can change the maximum Low, Mid or High band level in relation to the Ceiling level, just before the common final brick wall limiting stage.

Low, Mid and High Release multipliers are related to the front panel Release multiplier. In other words, these individual band-release controls and the front panel Speed and Release Multiplier knob determine the release time for any particular band. You can extend the low frequency release time by setting a longer band release time (multiplier set to values greater than 1) which will result in smooth and low distortion processing. At the same time, for a faster high frequency release response, you can reduce the high frequency release time.

Preset Handling & View Options

We provided PSP VintageWarmer with a set of factory presets. These presets can be used as a starting point for further adjustments, or for quick fixes.

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

Preset Browser

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 manager 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):

To select a preset, you can 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.

<Factory presets are built into the plugin and cannot be edited!>

Designer (shows only additional sets of built-in presets):

Empty category

<Factory presets are built into the plugin and cannot be edited!>

My presets (shows only your presets):

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

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 MicroWarmer

C:\Users\Username\Documents\PSPAudioware.com\User Presets\PSP VintageWarmer

C:\Users\Username\Documents\PSPAudioware.com\User Presets\PSP VintageWarmer2

For Mac users, this is located at:

~/Documents/PSPAudioware.com/User Presets/PSP MicroWarmer

~/Documents/PSPAudioware.com/User Presets/PSP VintageWarmer

~/Documents/PSPAudioware.com/User Presets/PSP VintageWarmer2

<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, you can 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.

Copy/Paste

Copy Paste

Copy/Paste feature to the plugin for quickly transferring 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

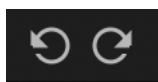


A/B system for quickly checking and auditioning changes to the plugin settings.

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



a undo/redo feature to the plugin to quickly navigate between setting changes.

To use the undo/redo feature, you can 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 (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 left bottom corner of the plug-in to any size you like.

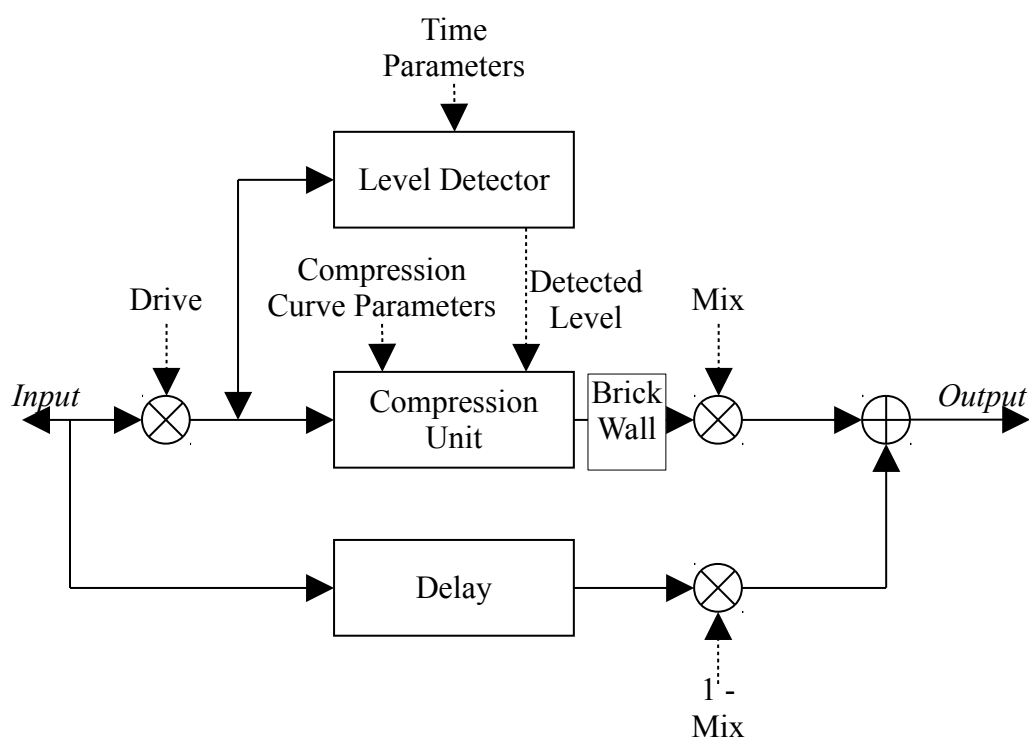
CONFIG section



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

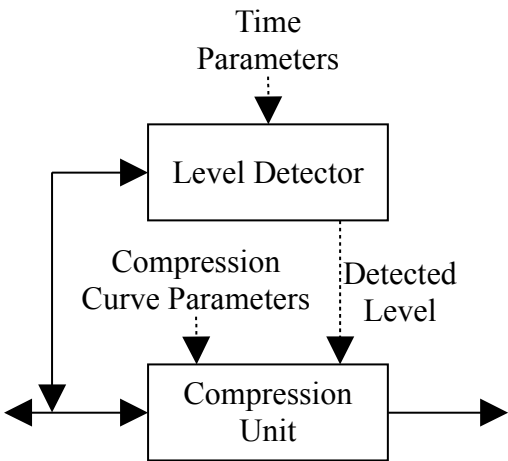
Block Diagrams

Single-Mode Block Diagram for PSP VW & PSP VW2

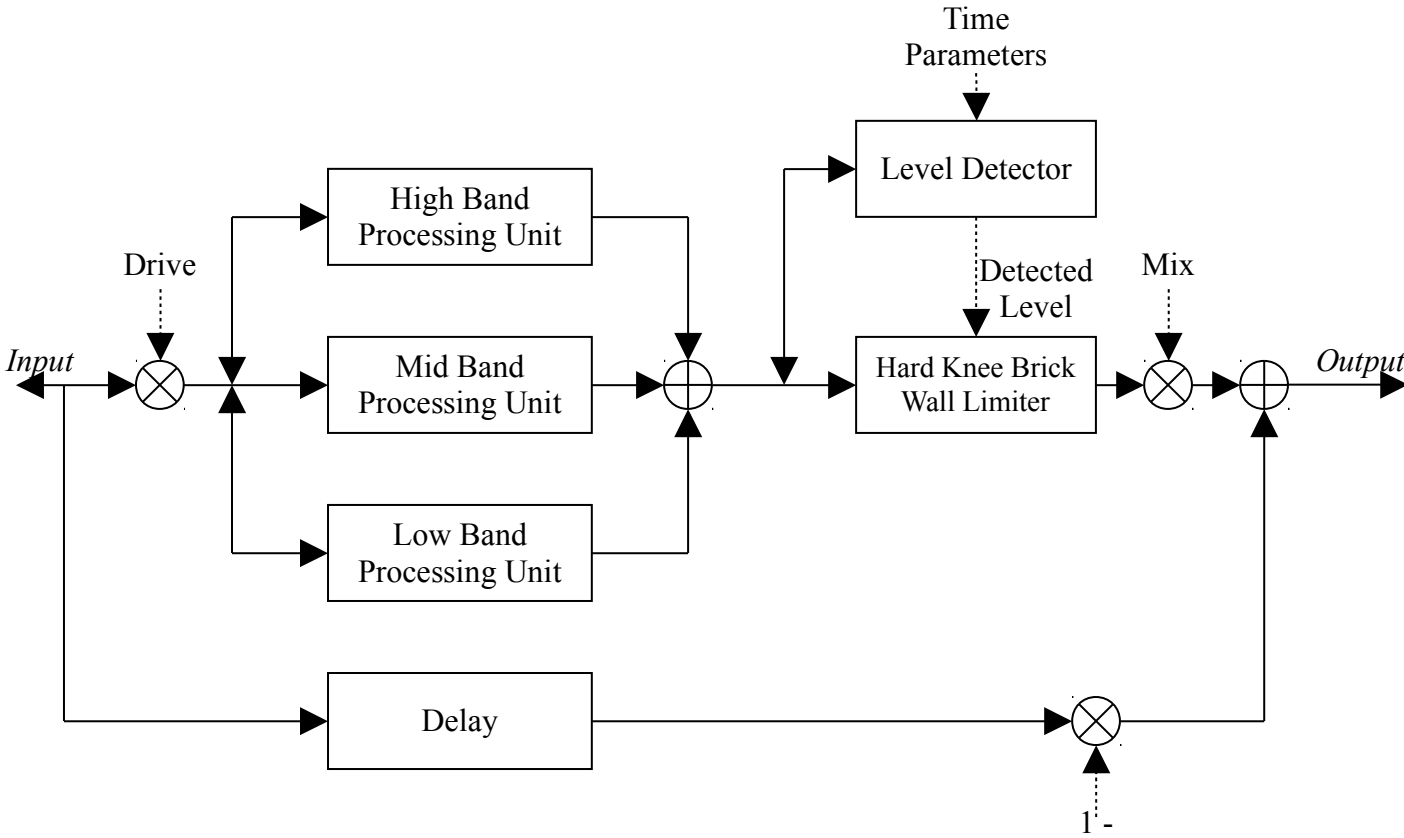


PSP VintageWarmer / VintageWarmer2 Single-Band processing mode block diagram

Multi-Band Mode Block Diagrams for PSP VW & PSP VW2

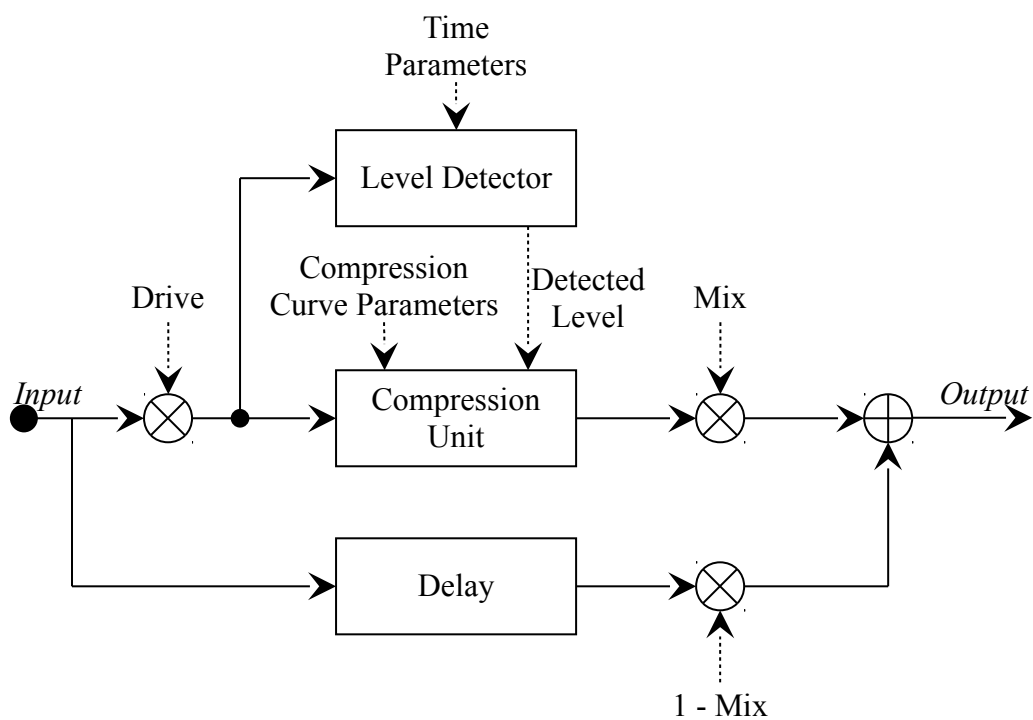


Low, Mid or High band processing unit in Mutli-Band mode



PSP VintageWarmer / VintageWarmer2 Multi-Band processing mode block diagram

Single Band Block Diagram for PSP MicroWarmer



PSP MicroWarmer (Single-Band only) processing mode block diagram

Questions and Answers

(Q) How can PSP VintageWarmer or PSP VintageWarmer2 be classified? Is it a compressor, limiter or other kind of processor like maximizer or saturator?

(A) PSP VintageWarmer's operation is based on various characteristics of how limiters, compressors, analog tape recorders and valve amplifiers work. PSP VintageWarmer2 uses a modified multi- and single-band brick-wall limiter algorithm to provide analog sounding saturation effects and also helps to maximize loudness in your recordings. It also provides soft knee adjustment which can transform tracks or mixes into sounding deeper and/or closer.

(Q) Can I use PSP VintageWarmer2 for mastering?

(A) Sure! First of all, make sure that you have an acoustically treated, professional monitoring environment, especially with regards to proper response at the bottom end of the audio spectrum. This is a must, because PSP VintageWarmer2 can transform proper recordings into boomy ones with exaggerated bass response if not monitored and applied properly.

(Q) Which Warmer should I use for mastering?

(A) We recommend you use PSP VintageWarmer2 for mastering and whenever uncompromised sound and detailed rear panel's multi band mode setup is required.

(Q) Can I use PSP VintageWarmer 2 for mixing purposes?

(A) Of course! Again, make sure you are mixing in a proper listening environment, paying special attention to low-end response. With an improper monitoring environment, you might find yourself using PSP VintageWarmer 2 to processing bass or drum tracks so that they sound great on your monitors but sound overly boomy or muddy when taking the mixes for mastering on professional monitoring systems.

(Q) What is the PSP MicroWarmer designed for?

(A) The PSP MicroWarmer is the simplest of the VintageWarmer's family. It is specially designed to make tracking and mixing easier.

(Q) Why PSP MicroWarmer only has a Single Band mode?

(A) Most individual tracks doesn't need multi-band processing, they sound best when processed with a broad band dynamic processor.

(Q) Which Warmer should I use for mixing?

(A) We recommend you use PSP VintageWarmer for mixing whenever you don't need to use FAT double sampling or the extended rear panel ranges offered by PSP VintageWarmer2. PSP VintageWarmer provides the same accurate and musical processing while the overall latency is significantly reduced compared to the PSP VintageWarmer2.

(Q) When should I use a Single Band mode?

(A) Although Single Band mode is very simple compared to the Multi Band mode we recommend you use it on individual tracks for very coherent, dense and characteristic sound or even on entire mixes to add some tape like warmth.

(Q) What is the Multi Band good for?

(A) Multi-band mode is a good choice for group or master bus processing or whenever a more transparent version of the Warmer is required. This mode allows you to process middle and high frequency bands exclusively from the low frequency band which results in lowered low frequency distortion, reduced middle band pumping and smooth high frequency processing. This mode requires attention to keep proper band levels and to adjust rear panel controls if needed.

(Q) Graphics are very slow to refresh.

(A) PSP VintageWarmer uses a significant amount of graphics resources to enable smooth movement of knobs and meters movement. This can cause slow refreshing, especially when opening the editor window or switching between front and rear panel. This side effect can be especially visible with heavy CPU and memory usage. If you notice the graphics refreshing slowly, other than trying to reduce CPU and memory usage, there's not too much you can do.

(Q) What's the difference between VU and PPM metering?

(A) We tried to make the meters similar to analog meters. A real VU meter uses a 300ms integration time—every other setting gives a response that is different from authentic VU time response. As a VU meter shows an average, not instantaneous level, it has to be calibrated to be useful for real applications. In a normal situation a VU meter shows -14dB value relative to peak value. That is why mastering and post production engineers decided to use it as reference level for music. The modern practice of using extremely hot levels practice has causes average levels to be much closer to peak value, which is why we decided to offer users such a wide reference level adjustment range.

PPM meters are pseudo peak meters and show the level value very close to digital peak values. Typically they have 10ms attack and about 1000-2000ms release times. In many cases they are more practical then Digital peak meters because they omit unnoticeable transients while properly indicating the overall level envelope. However if you need to you can achieve perfect digital peak metering by setting attack to 0ms.

(Q) Should the VU Pre metering show levels at >+6dB, when level is less than 0dB in host's metering?

(A) As VU is an average level, it depends on the reference level in the rear panel as well as the audio signal type. If the reference level is set to -14dB it means that 0VU = -14dBFS (for example, -14dB in Apple Logic) for sinusoidal wave and for normalized music signals can range from 0 to more than +6VU.

(Q) The Knee knob sounds like it's adjusting the Drive control rather than the compression knee. Is this correct?

(A) Imagine that all levels in PSP VintageWarmer are normalized and relative to Ceiling (together with Low, Mid and High Saturation in multi-band mode), which can be considered as a kind of *compression threshold* control. When the knee is set to low value, only the few dB (or even 0dB) closest to the Ceiling value are compressed, as opposed to when high Knee values are set to compression, which effect the signal when it is as low as 20dB below Ceiling. After that compression signal is normalized so the input 0dBFS value remains 0dBFS. That is why you do not need to adjust output level every time when you change the knee setting (which really affects compression *depth* more than *drive*). A Drive is only an input level adjustment for compression chain.

(Q) The *Saturation levels on the rear panel—are these thresholds?*

(A) Yes, they are. Except global Ceiling (which works similar to Threshold control in some points), we added separate adjustments for every band in multi band mode.

(Q) *I've noticed that PSP VintageWarmer modulates deep basses; is this expected?*

(A) Yes, it is. This is caused by the speed and release parameters. Because PSP VintageWarmer functions as a kind of limiter tool it causes distortion, which might be noticeable especially for low frequencies. On the other hand the high amount of low frequency energy influences the processing of the middle and high frequencies in the Single Band mode

In the Multi Band mode you can reduce the low frequency distortion by setting low release time to a greater value. You can also modify the amount of bass processing on the output brick wall limiter by setting individual bands' saturation level to lower values.

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.

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.

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