



PSP VintageWarmer

Operation Manual

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Overview

PSP VintageWarmer is a high-quality digital simulation of an analog-style, multi-band compressor. It combines warm analog sound with a straightforward user interface, and comes with a rich library of presets and a detailed operation manual. The processor is highly flexible and can be used for both single and multi-band compression, as well as brick-wall limiting. This makes it an essential tool for mixing and mastering engineers. Careful attention has been paid to Vintage Warmer's overload characteristics with the processor being capable of generating saturation effects typical of analog tape recorders. Vintage Warmer also incorporates professional VU and PPM metering together with accurate overload indicators thereby assuring professional quality results.

Features

- High quality signal processing algorithms
- Single or multi-band signal 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 the overload indicators
- Library of presets

Applications

- Optimising 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

Limitations of the demo version

Processing stops every 30 seconds.

Compatibility

PSP Vintage Warmer is compatible with applications that can host standard VST or DX plug-ins. The product has been tested in the following applications:

PC

- Cubase 3.6, 3.7, 5.x
- Nuendo 1.5
- Cubasis VST
- WaveLab 3.x
- Logic 4.x
- PARIS
- n-Track Studio
- Orion
- FXpansion VST-DX adapter 2 and 3

MAC

- Cubase 4.x i 5.x
- Cubasis VST
- Logic 4.x
- sonicWORX
- Spark
- PEAK
- DECK
- Audio Ease VST Wrapper

If your VST or DX host application is not listed above we strongly recommend that you install and test the demo version of Vintage Warmer for compatibility before purchase. We would also appreciate it if you could provide us with information about your VST or DX configuration so that we can test it ourselves (contact@psp-audioware.com).

Minimum System Requirements

- Windows 95
- 128 MB RAM
- Pentium II 300 MHz
- High Colour S-VGA 1024x768
- VST or DX compatible host application
- MacOS 8.6
- 128 MB RAM
- G3 300 MHz
- High Colour S-VGA 1024x768
- VST* compatible host application

The particular VST host application being used directly affects the operation of the plug-ins being used and may limit their functional operation or even interfere with their proper operation. PSPaudioware.com s.c. accepts no responsibility for this.

You can use our VST plug-ins with MAS compatible host applications using AudioEase's VST Wrapper.

Installation

To install the PSP Vintage Warmer, follow the installation instructions that appear on your computer screen. Please, make sure that you select the appropriate plug-ins' folder for your VST compatible host application. If you want to use PSP Vintage Warmer in more than one application, manually copy the 'PSP_VintageWarmer.dll' file, which has already been installed into the chosen folder, to the appropriate VST compatible host application folder. For example, Cubase VST hosts VST plug-ins in its 'Vstplugins' folder. Cubase VST 5.0 can also host plug-ins in a shared folder called 'Shared VST Plug-ins Folder.' Logic Audio hosts VST plug-ins in its 'Vstplugins' folder. In order to install PSP Vintage Warmer in other VST compatible applications, you should refer to particular application's operating manual.

In order to install PSP VintageWarmer in DX compatible application, you should choose any folder like 'C:\Program Files\Vstplugins'.

To uninstall PSP VintageWarmer, choose the automatic uninstall option and follow the instructions on your computer screen. If you have installed PSP VintageWarmer in more than one host application, manually remove the 'PSP_VintageWarmer.dll' file from the other folders.

Controls

Front Panel Controls

PSP Vintage Warmer's front panel has been designed so that it is as easy to use as possible. All essential user interface features including displays, knobs and switches are located on the front panel.



Displays

[VU Meters]

PSP Vintage Warmer's analog-style meters indicate VU levels. Normally the meter scale ranges from -20 to +3 however this can be switched to a wider mode (-40 to +6). 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 -14dBFS sine wave, however this can be adjusted. Use the back panel to change the integration time or reference level. The meters can also be switched to PPM mode with adjustable attack and release integration times. The meters contain overload LEDs which, by default, react to three or more overloads. The overload counter can be adjusted on Vintage Warmer's back panel. After an overload occurs, the LED fades out, however it remains a dark red colour. 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 then audio signal. "Pre" mode shows the signal level after equalization in the 'Pre' mode. "G.R." shows the signal gain reduction. "Post" mode shows the signal level after processing. 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 quantity for the current parameter (dB, % or Hz), and no quantity for the Release multiplier. The Parameter Display also shows the value of the knob when the mouse is moved over it. In some hosts, it may be necessary to click on a knob in order for its value to be shown in the 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 attack and release times. The title refers to tape speed. A setting of 0 refers to a very slow tape speed or a slow limiter/compressor setting, while a setting of 100 refers to the highest available tape speed or a fast limiter/compressor setting. 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 Vintage Warmer to operate at a maximum level other than 0dBFS. This control prevents 0dBFS signals 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 back panel. 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 the Vintage Warmer unaltered. The default value is 100%.

[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 Vintage Warmer 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 or the high-band pre-limiter gain. The default value is 0dB.

[Low Freq]

When Vintage Warmer 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 or the low-band pre-limiter gain. 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 routines are bypassed except for the VU metering.

[Single Band / Multi Band]

The Single Band / Multi Band switch selects Vintage Warmer's limiting mode. In "Single Band" mode, the processor functions across the full frequency range allowing tape simulation effects with shelving equalization. In the "Multi Band" mode, the processor acts as a three-band, soft-knee limiter with pre-limiter level adjustment and hard limiting for the combined output.

[Mono / Stereo]

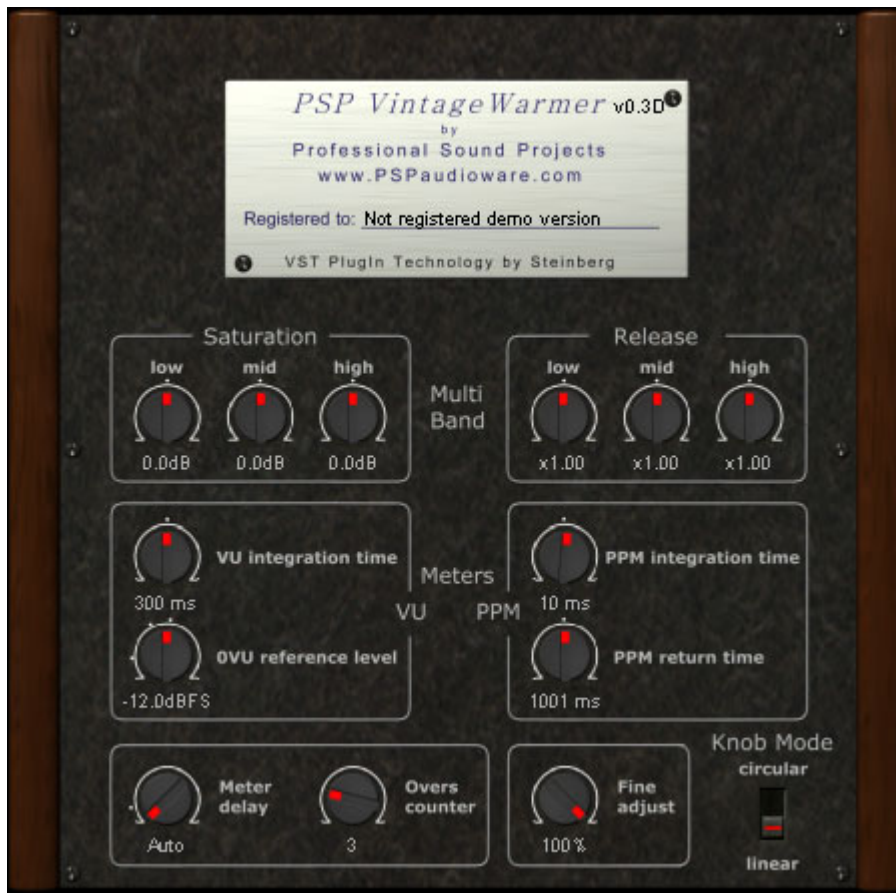
The Mono / Stereo switch sets Vintage Warmer's channel routing. When in Mono mode, only the first channel is processed. After processing it is sent to both outputs. In the stereo mode, both channels are processed. Stereo mode is not recommended for use with mono signals.

[Link off / Link on]

The Link off / Link on switch links and unlinks Vintage Warmer's two channels. When linked, each channel has identical settings. Unless the signal requires correction, the Link on option is preferred for stereo processing.

Rear Panel Controls

Clicking on the VintageWarmer name opens the Back panel window with its preference and algorithm detail settings, as well as the about box with the registration name. Preference parameters allow you to adjust the behavior of the meters and the knob mode. Algorithm-detailed settings refer to the multi-band processing mode and are stored within a current program, like the Fine adjustment parameter. To return to the front panel, click on the about box.



[Low, Mid, High Saturation]

The Low, Mid and High Saturation knobs set the saturation levels for each of the three frequency bands when Vintage Warmer 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.

[Low, Mid, High Release]

The Low, Mid and High Release knobs set the release multiplier for each of the three frequency bands when Vintage Warmer 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.

[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.

[0VU Reference Level]

The 0VU Reference Level knob sets the sine wave reference level. The default value is -14dBFS. This value is stored as a preference setting.

[PPM integration time]

The PPM integration time knob sets the attack ballistics for the PPM meters. The default value is 10ms. 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 1000ms. This value is stored as a preference setting.

[Meter delay]

The Meter delay knob is used to compensate for output latency. The default value is Auto.

[Overls counter]

The Overload counter knob sets the number of overloaded samples which makes the overload LEDs light. The default value is 3 samples. This value is stored as a preference setting.

[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.

Operation

Working with meters

PSP VintageWarmer meters are designed to work similar to real VU and PPM meters and as well as over indicators. To ensure that they can be used as a useful tool in every situation we endowed them with a set of parameters that are aimed to adjust the meters' behavior to every practical situation. To learn more about those adjustable parameters check Controls -> Back Panel section of this manual.

Standard VU meters are specified to work with 300ms integration time - every other integration time setting gives a response that is not compatible with standard VU time response but allows you to adjust it to your particular needs. As the VU meter show a kind of average level, it has to be calibrated to be useful for real applications. In normal situation the 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. Nowadays hot level practice are the cause for average levels to be much closer to peak value - that is why 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 then Digital peak meters. You can achieve perfect digital peak metering by setting attack to 0ms.

Back Panel operation

PSP VintageWarmer's Back Panel consists of the plug-in information box, detailed parameters for multi-band processing and preferences parameters.

The Information box shows the plug-in's version as well as the authorization details.

Multi-band processing parameters allow you to tune PSP VintageWarmer's sound characteristics in multi-band processing mode.

Preference parameters are not related to the sound processing. They set the way meters and knobs operate.

Using Low, Mid and High band parameters

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

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

Low, Mid and High Release multipliers are related to the front panel Release multiplier and together with this control modifies the release times for any particular band.

Using preferences parameters

Preferences parameters allows you to adjust the meters' and knobs' behavior to your needs. These are: VU integration time, 0VU reference level, PPM integration time, PPM return time and Over load counter. They are automatically stored in the Windows Registry or in the Preferences folder under MacOS every time this plug-in is closed. Whenever you start a new instance of the plug-in or start a project with PSP VintageWarmer used, all

preference parameters are recovered from last settings regardless of the project or even the host application that is used.

There is one more preferences parameter: Meters Delay. It is stored within every single project because every project or any host application may require different settings for this parameter.

Using presets

The PSP VintageWarmer is provided with a factory set of presets. Those presets were prepared by professionals and are designed for various purposes using different features of the plug-in.

The first aim of the PSP VintageWarmer's presets is to show the customer the features of the plug-in and help to learn the controls of the plug-in. In addition, they can be used as a starting point for further tuning during regular usage or as quick fix presets for various situations that need quick and/or draft processing tools.

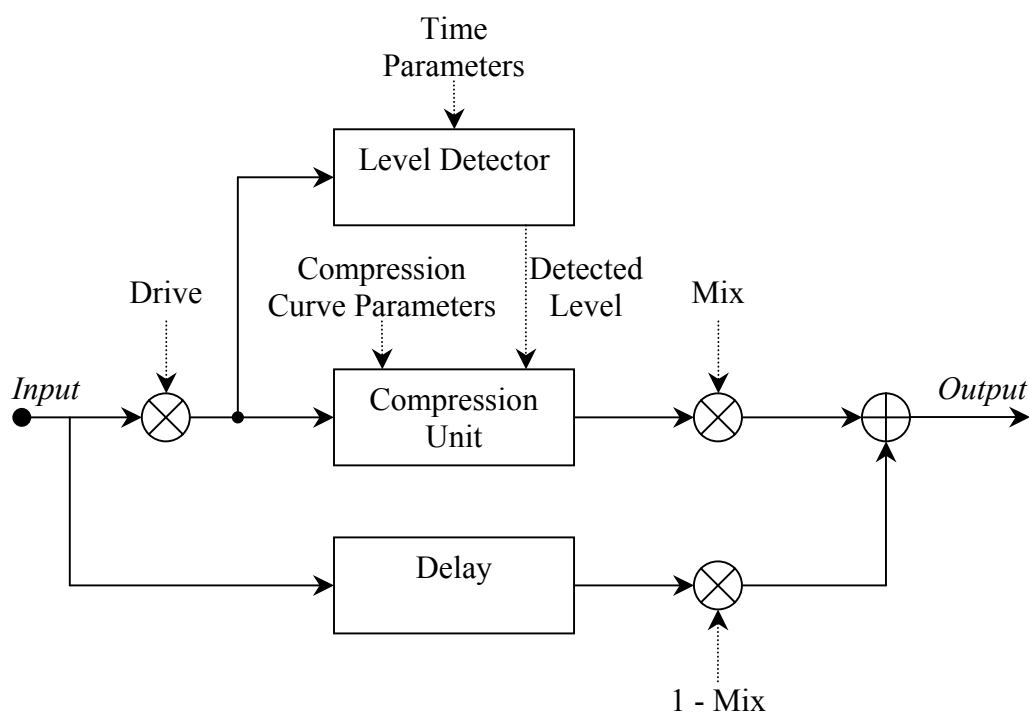
The PSP VintageWarmer contains 29 presets for mastering, mixing and tracking.

PSP VintageWarmer preset list

1. Mastering First Aid
2. Mix First Aid 1
3. Mix First Aid 2
4. Mix First Aid 3
5. Mix First Aid 4
6. Mix Extra Pressure
7. Mix Finalize 1
8. Mix Finalize 2
9. Mix Finalize 3
10. Mix lite driven tape
11. Mix semi driven tape
12. Mix heavy driven tape
13. Multi Band Limiter Slow
14. Multi Band Limiter Fast
15. Multi Band CompLim Light
16. Multi Band CompLim Medium
17. Multi Band CompLim Heavy
18. Guitar Track
19. Clean Guitar Track
20. Heavy Rythm Guitar Track
21. Lead Guitar 1 Track
22. Lead Guitar 2 Track
23. Vintage Guitar Track
24. Bass Line Track
25. Funky Bass Drum Track
26. Snare Drum Track
27. Track Tape Slow
28. Track Tape Normal
29. Track Tape Fast

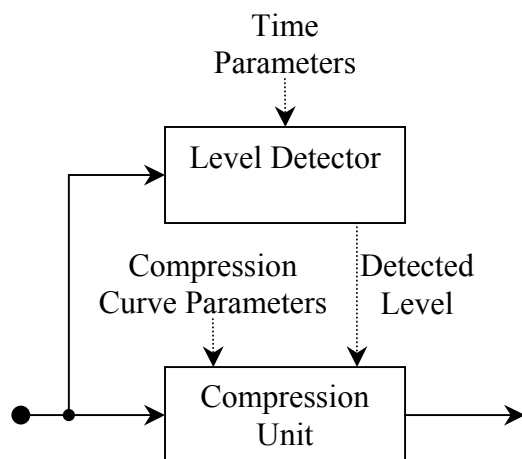
Block Diagrams

Single-Mode Block Diagram

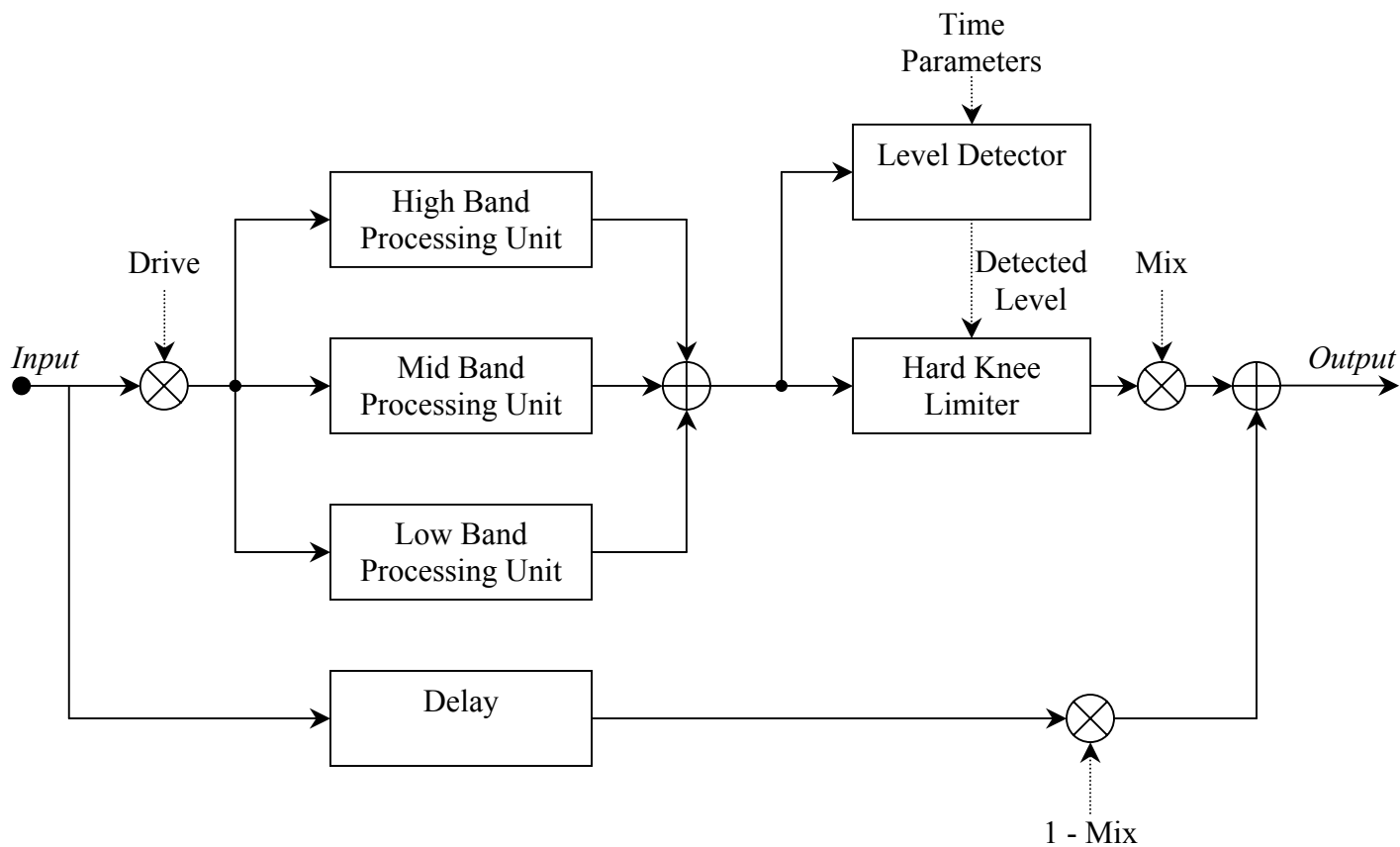


PSP VintageWarmer Single-Band processing mode block diagram

Multi-Band Mode Block Diagrams



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



PSP VintageWarmer Multi-Band processing mode block diagram

Questions and Answers

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

(A) The PSP VintageWarmer's operation is based on the limiters', compressors' and analog tape recorders and valve amplifiers working.

The PSP VintageWarmer uses a modified multi- and single-band brick-wall limiter's algorithm to provide analog sounding saturation effects which could also help to maximize your recordings. It also provides soft knee adjustment which can transform tracks or mixes into deeper and closer sounding ones.

(Q) How to use PSP VintageWarmer for mastering purposes?

(A) First of all make sure that you have a really professional monitoring environment, especially with proper response for the bottom end of the spectrum. This is a must because if PSP VintageWarmer is not used properly it can transform proper recordings into boomy ones with slow bass extension.

A good starting point is to try some presets that are designed for mastering purposes. They are set in fine tuning mode to ensure that the user can operate them in a proper shorten adjustment range. If you try to find the proper settings for your material, try to adjust the main settings to get the best results. Then try to A/B compare the dry and effected signal using the On/Off switch or the bypass button in your DAW application. If you find that the result is still to deep, try to finally adjust the processing depth by using the Mix knob.

(Q) How to use PSP VintageWarmer for mixing purposes?

(A) First of all make sure that you have a monitoring environment with a proper bottom end response. PSP VintageWarmer can easily be set to make a properly sounding bass track on your monitors but it will sound like a "mix of bass drums behind the wall" during mastering on professional monitoring systems.

Everything else is depending on your needs. If the PSP VintageWarmer is used as a creative tracks shaping tool, it can be adjusted into any of the available settings. If it is used only to make a better perception of a track it has to be used with moderation.

(Q) What is a minimum and recommended configuration to use PSP VintageWarmer?

(A) PSP VintageWarmer uses a considerable amount of resources to achieve its quality sound and graphics. To ensure that it could be easily used we recommend as a minimum configuration a PC with PII 400MHz processor or Mac with at least G3 350 MHz, 128MB of RAM and at least High-Color graphics in 1024x768 resolution.

For multi-tracking as well as comfortable usage for mastering and post-production purposes we recommend PC with PIII 800MHz or Mac with G4, 256MB of RAM and True Color graphics in 1152x864 resolution.

Note that not only the computer's specifications have to be considered to achieve good results from PSP VintageWarmer. All audio system configurations have to be considered. Professional quality DACs and fully featured monitoring facility (especially with proper response for bottom end of the spectrum) is a need to properly adjust the plug-in parameters, especially for mastering purposes. Using the plug-ins widely adjustable parameters without the possibility for proper ear control can even damage good sounding sound material. On the other hand, working in combination with superb quality audio equipment can add dimensions that are missing and making it richer and fuller.

(Q) *PSP VintageWarmer does not appear in my VST application.*

(A) All VST plug-in files have to be installed into the proper 'Vstplugins' folder. On PC computers VST plug-ins contain the 'dll' extension and they are VSTFx files on Macs. Those files have to be installed into the proper disk folder, all other files like documentation, license and the registration application can be held in another folder. If the PSP VintageWarmer does not show in your VST compatible application it maybe the case that the PSP_VintageWarmer.dll or PSP_VintageWarmer VSTFx file is installed into the wrong disk folder.

In most cases the plug-in should be installed into 'Vstplugins', 'VstPlugIns' or 'Plugins' folder under the main folder of the VST compatible host application. See the appropriate application's manual for more details.

(Q) *Graphics are very slow to refresh.*

(A) PSP VintageWarmer uses a big amount of graphics to enable smooth knobs' and meters' movement. This could cause slow refreshing especially during opening of the editor window or switching between front and back panel. This side effect can be especially visible during heavy CPU and memory usage by mixing and/or other plug-ins.

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

(A) We tried to do it similar to analog meters.

Real VU meter works with 300ms integration time - every other setting gives a response that is different from VU type time response. As a VU meter shows a kind of average 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. Nowadays hot level practice has caused average levels to be much closer to peak value - that is why we decided to give a user 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. You can achieve perfect digital peak metering by setting attack to 0ms.

(Q) *Should the 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 back panel as well as the audio signal type. If the reference level is set to -14dB it means that 0VU = -14dBFS (like -14dB in Logic) for sinusoidal wave and for normalized music signals can range from 0 to more then +6VU.

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

(A) Imagine that all levels in this plug-in 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 Threshold control. When the knee is set to low value only few dB (or even 0dB) closest to the Ceiling value are compressed, as opposite to when high Knee values are set to compression and works up to 20dB below Ceiling. And 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 knee (which affects rather compression depth than drive).

A Drive is only an input level adjustment for compression chain.

(Q) *Saturation levels in prefs - 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) *The VW modulates deep basses (expected?)*

(A) This is caused by the speed and release parameters. Because it is a kind of limiter tool it causes distortion which grows for lower frequencies.

This is by default, but you can modify this in the Multi mode by using LowSaturation in the back panel. You can also change Speed and Release values.

Support

If you have any questions about the principles or operation of our plug-ins, please visit our website www.PSPAudioware.com where you can find the latest product information, free software updates and answers to the most frequently asked questions.

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

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User Comments

We welcome any opinions and comments related to PSP VintageWarmer. We would also be grateful if you shared with us your experiences using PSP VintageWarmer. For example, if you've created a useful preset then let us know.

Please, contact us at:

contact@psp-audioware.com