

PSP Vintage Warmer

2

morphing
bytes
into
emotions!



www.PSPaudioware.com

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Installation

To install any PSP plug-in, launch the installer application and follow the on-screen installation instructions. Please make sure that you select the appropriate plug-in's versions and destination folder if needed for your host application.

VST hosts

VST applications (such as Cubase, Nuendo, and WaveLab) require VST plug-ins to be installed into special folder.

On Macintosh computers running Mac OS X, the commonly used vst folder is `/HardDrive/Library/Audio/Plug-ins/VST` and all applications will access the plug-in from there.

In most cases on PC computers a VST application accepts plug-ins installed in the `Vstplugins` subfolder under the main applications folder, for instance, `C:\Program Files\Ableton\Live 6\Vstplugins`. Some hosts, such as Steinberg hosts, use a shared plug-ins folder, in most cases it is `C:\Program Files\Steinberg\VstPlugins`.

In order to install any PSP plug-in in other VST compatible applications, you should refer to the particular application's operating manual.

DirectX hosts

All DirectX applications (such as Sonar, Cool Edit, Samplitude, SoundForge) allow you to install plug-ins and documentation in which ever folder you like (e.g. `C:\ProgramFiles\plugins\`) until it is a valid folder. Be careful not to use an empty folder path to install our plug-ins. This may happen when the setup application can't find a default installation path.

Audio Unit hosts

Mac OS X applications such as Apple Logic, Garageband, Digital Performer and other applications that support Audio Units requires AU plug-ins to be located in the Components folder. There are two Components folder: the "Local" Components folder, located at `/HardDrive/Library/Audio/Plug-ins/Components`, and the "user" components folder, located at `/HardDrive/Users/YourUsername/Library/Audio/Plug-ins/Components`. Our Installer automatically installs AU plug-ins into the Local components folder, so that the plug-in can be used regardless of user account. If you want to install the plug-in into a specific user's Components folder, simply drag the `.component` file out of the local Components folder into the Components folder for the desired user.

RTAS hosts

On the Macintosh, installing the Mac OS X RTAS format installs two files:

- 1) The core plug-in library (file) with an extension of `.plg`
- 2) The RTAS shell, with an extension of `.dpm` extension.

These plug-ins will be installed into the following directory: `Hard Drive/Library/Application Support/Digidesign/Plug-ins/`.

On the PC, installing the RTAS format installs three files:

- 1) The core plug-in library (file) with an extension of `.dll`
- 2) The RTAS shell with an extension of `.dmp`
- 3) The official RTAS "digi hates you" file, with an extension of `.dmp rsr`

The .dll file will be installed into the directory C:/Windows/System32. The other two files will be installed in the directory C:/Program Files/Common Files/Digidesign/DAE/Plug-ins.

Uninstallation

Please uninstall the previous version before installing a new version of the plug-in. To uninstall PSP plug-ins, choose the automatic uninstall option and follow the instructions on your computer screen.

Minimum System Requirements

PC: P4 compatible CPU with Windows XP and appropriate audio application supporting VST, RTAS or DX plug-ins.*

Mac: G4, G5 or Intel CPU based Mac with OS X 10.4 or later installed and appropriate audio application supporting AudioUnit, RTAS or VST plug-ins.*

* Some features including automatic latency compensation may not be available under some audio hosts.

PSP VintageWarmer 2

Overview

PSP VintageWarmer 2 is a high-quality digital simulation of an analog-style, a single- or multi-band compressor/limiter. It combines rich, warm analog processing with a straightforward user interface, and comes with a comprehensive library of presets. The plug-in processor is highly flexible and can be used for both soft knee compression and brick-wall limiting. This makes it an essential tool for mixing and mastering engineers. Careful attention has been paid to PSP Vintage Warmer's overload characteristics with the processor being capable of generating saturation effects typical of analog tape recorders. PSP Vintage Warmer also incorporates professional VU and PPM metering together with accurate overload indicators thereby assuring professional quality results. PSP VintageWarmer 2 offers PSP Audioaware's proprietary Frequency Authentication Technique (FAT) – a high quality double sampled processing mode for even more analog-like processing and a 64-bit floating point processing for accurate mathematical precision, extended release time range mode, disengagable brick wall processing, automatic release adjustments for an even more intuitive user experience 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 floating point precision
- ▶▶ 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
- ▶▶ Disengagable brick-wall limiting
- ▶▶ Two Release Multiplier ranges for fast or relaxed processing
- ▶▶ Semi Automated Release mode.
- ▶▶ Up to 192kHz sample rates supported
- ▶▶ 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

Controls

Front Panel Controls

PSP Vintage Warmer'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.



Displays

[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 -14dBFS sine wave, however this can be adjusted by clicking on the meters. Use the rear panel to change these settings. See the *Rear Panel Controls* section of this manual for more information.

The meters can also be switched to PPM mode with adjustable attack and release integration 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 overloads. The overload counter can be adjusted on Vintage Warmer'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.” 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 scale 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, 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 attack and release times. The name 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 PSP VintageWarmer 2 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. 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.

Buttons

[Auto]

The Auto-release button configures PSP VintageWarmer 2 to automatically readjust the release time to more accurately follow the track content. This results in a fuller sound and lower distortion compared to a 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 2 to work within the extended Release Multiplier range. Actually the scale of the Release Multiplier knob starts in the point where its range ends in the standard mode.

[Brick Wall]

This button turns on and off the PSP VintageWarmer 2 output brick wall limiter mode in the Multi Band mode and controls the clipper section of the Single 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]

Setting this switch to FAT engages PSP Audioware’s proprietary Frequency Authentication Technique (FAT) algorithm. This is the same high quality algorithm we introduced with our mastering processors, PSP MasterComp, PSP MasterQ and PSP Neon. When this switch is set to FAT, PSP VintageWarmer 2’s sounds even more analog-like, with less aliasing artifacts when the VintageWarmer is driven hard into distortion. Keep in mind, however, that FAT mode uses more than double the CPU resources the same settings in standard mode uses.

[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]

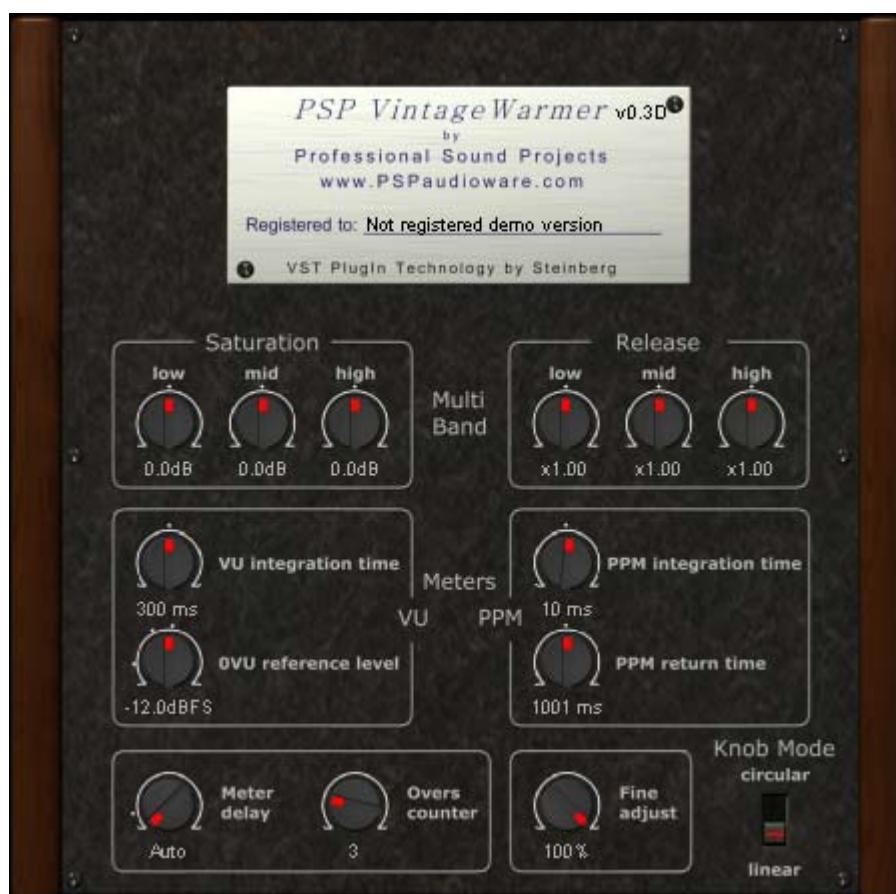
The Mono / Stereo switch sets Vintage Warmer's channel routing. When in Mono mode, only the first channel is processed. After processing it is sent to both outputs. In the stereo mode, both channels are processed. Stereo mode is not recommended for use with mono signals.

[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 PSP VintageWarmer 2 logo opens the Rear 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. The Saturation and Release 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. The range for this has been increased in PSP VintageWarmer 2 to ± 12 dBs for each band. The new range gives extra control for proper driving of the output brick wall limiter.

[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. The adjustment divisions have been increased in PSP VintageWarmer 2 to allow for deeper control over low and high frequency responses. You can now adjust the release knobs in multiples of sixteenths.

[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 however if you notice that the meter isn't synchronizing properly, we recommend you manually set the meter delay to 0 ms, or adjust this parameter manually to an appropriate value that results in proper meter synchronization.

[Overs 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's meters operate similarly to analog VU and PPM meters (as do it's 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. As the VU meter show a kind of average level, it has to be 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 reference level for music. The modern practice of using extremely hot level results in 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 then Digital peak meters. These meters offer perfect digital peak metering if you set the attack to 0ms.

Using Low, Mid and High band parameters

PSP VintageWarmer 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.

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. You can access these presets from the PSP Audioware standard PRESET bar at the bottom 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. There are three sections to this bar, the PRESET section, the Preset window, and the BANK section.



PRESET SECTION

- Click the green “from disk” icon to load a preset
- Click the red “to disk” icon to save a preset

PRESET WINDOW

- Click the menu button to the right of the preset window to see the menu of all the presets in the currently loaded preset bank.
- Click the name of the preset to rename it.

BANK SECTION

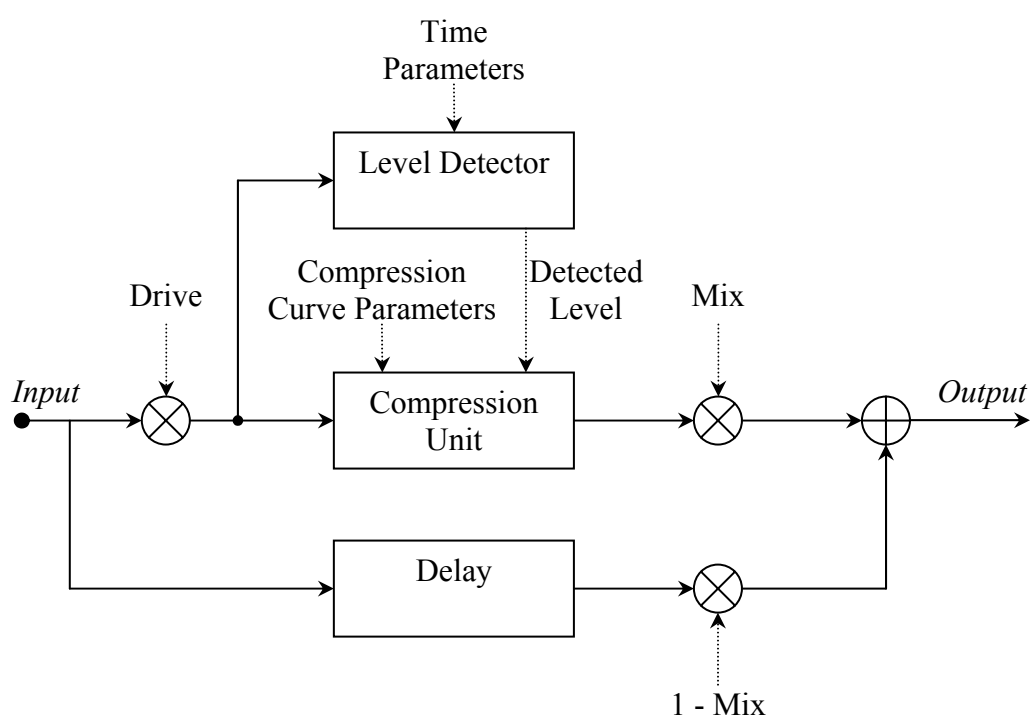
- Click the green “from disk” icon to load a bank
- Click the red “to disk” icon to save a bank

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 Mediu
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

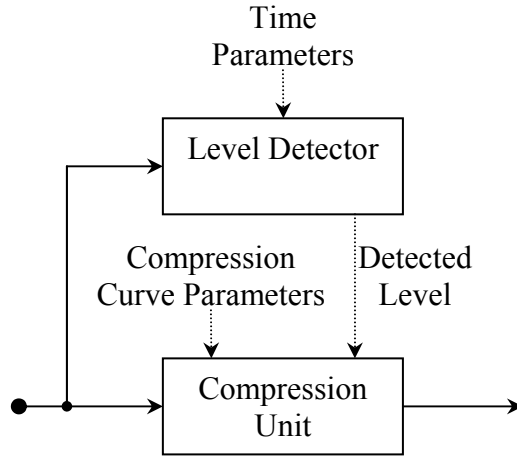
Block Diagrams

Single-Mode Block Diagram

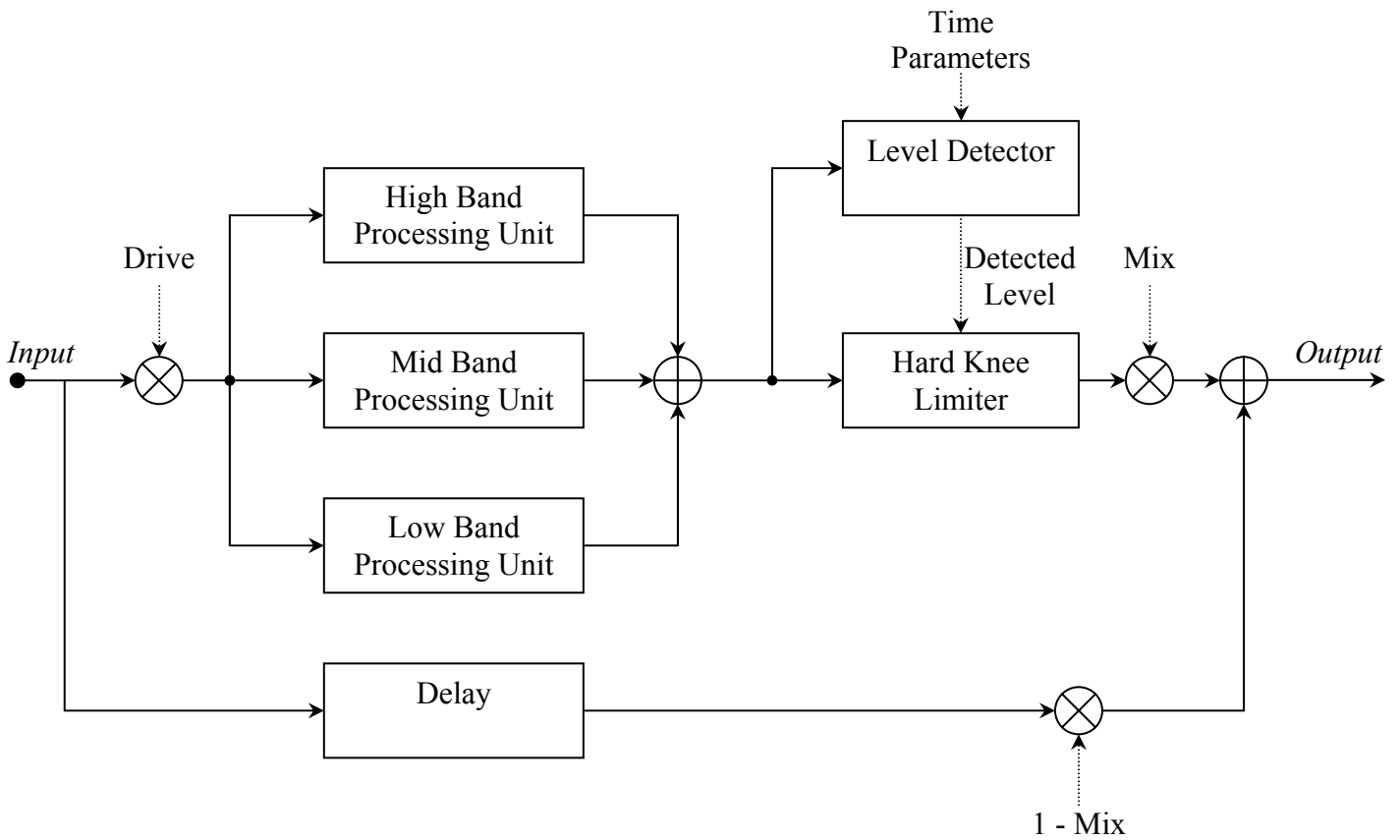


PSP VintageWarmer Single-Band processing mode block diagram

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 2 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 the limiters, compressors, analog tape recorders and valve amplifiers work. PSP VintageWarmer 2 uses a modified multi- and single-band brick-wall limiter algorithm to provide analog sounding saturation effects also help 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 VintageWarmer 2 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 VintageWarmer 2 can transform proper recordings into boomy ones with exaggerated bass response if not monitored and applied properly.

A good starting point is to use some of our presets that are designed for mastering and mixing purposes. They are pre-configured to ensure that you can operate them in a properly shorten adjustment range use them with minimal adjustments necessary. When you adjust the settings for your material, try to adjust the main settings to get the best results. Then 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 using the Mix knob.

(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) *Graphics are very slow to refresh.*

(A) PSP VintageWarmer 2 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 works with 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 than 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 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 2 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 knee (which really affects compression *depth* than *drive*).

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

(Q) *The Saturation levels 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 2 modulates deep basses; is this expected?*

(A) Yes, it is. This is caused by the speed and release parameters. Because PSP VintageWarmer 2 functions as a kind of limiter tool it causes distortion, which increases for lower frequencies.

You can modify this in the Multi mode by using Low Saturation in the rear panel. You can also change Speed and Release values.

Support

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