Vengeance Producer Suite – Philta XL

Manual Version *1.0* *December 2010*

Dear customer,

Thank you for choosing the Vengeance Producer Suite – Philta XL plug-in ('Philta' for short)

The filter has been a central component of electronic music since the early years, and electronic music without the use of filters is almost unthinkable these days. Vengeance Sound has recently moved into this interesting field, and now proudly presents 'Philta' – a very special and flexible plug-in!

One important characteristic of any filter is its 'rolloff' value, which specifies how severely frequencies that lie above or below the cutoff point will be attenuated. Rolloff is quoted in Decibels per octave – in a 12dB filter, the level is reduced by 12dB for every octave beyond the cutoff point. Philta not only offers the popular 12dB and 24dB modes, but also two more with very steep rolloff characteristics: 48dB and 96dB. Every filter type features user-definable 'resonance'. In the filter world, resonance is caused by boosting frequencies close to the cutoff point, it is the source of the characteristic whistling sound. With Philta, you can not only boost those frequencies up into outer space (should you wish), but you can also adjust the width of the frequency 'window' that will be boosted. Philta is actually two filters in one: a lowpass and a highpass. Having a pair of filters makes variable 'bandpass' filtering easy, as well as the 'notch' (band-reject) typical phasing effects. The cutoff frequencies of the two filters can be linked together, and the two rolloff values can differ.

There's a lot more under the hood: Each filter has its own 'envelope follower'. Envelope followers automate cutoff movements (in realtime) according to the level of the input signal. Fed highly dynamic material such as bass drums or funky guitars, the cutoff can be made to open and close quite dramatically, resulting in a vocal 'wah-wah' sound. Of course you can freely adjust how quickly the envelope follower reacts (via 'attack' and 'release' time settings). The frequency window ('area') being measured is also user-adjustable, which can result in different rhythms from the same signal – the ideal playground for experimentation!

Another interesting feature is the LFO. Low Frequency Oscillators are cyclic modulators (often tempo-synchronised), and the one in Philta is used to automatically open and close the filters. You have a choice of waveforms (Shape) as well as rates (1/4, 1/1 etc.). When synchronised, the LFO timing will always be perfect.

'Philta' also has some useful onboard effect processors: A ring modulator, a distortion unit as well as a combined rate reducer / bit crusher. These creative tools are used to manipulate (or even mangle!) the audio material to your liking. The ring modulator and rate reducer can be linked to cutoff frequency – wherever the cutoff goes (via envelope follower, LFO, automation etc.), the effect will follow. Finally, the rate reduction and distortion effects can be positioned in the signal path either BEFORE or AFTER the filter, which often delivers very different results. Again, experimentation is the best strategy.

The final element in Philta's signal path is a high-quality limiter (the one from 'Vengeance Mastering Suite – Multiband Compressor'). Set up correctly, the limiter ensures that Philta will never allow loud signals to go high enough to cause digital 'clipping'.

The best way to learn all about these interactive features is to try out the factory presets in your songs. Drum loops, vocals, synth-lines, bass-lines, pads, sub-mixes or complete sections of the song – use your imagination! Our goal while designing Philta was to create an easy-to-use utility for any studio, one which you can be sure will not overtax the CPU even if inserted into every track in the arrangement. When the filters are fully open, Philta does not add any coloration at all to the sound. This means that you can always leave the filters in 'active standby' until your automation data kicks in and starts moving the cutoff points around. With its high (up to 96dB) roll-off settings and LP/HP architecture, Philta is also the perfect mastering plug-in for surgically removing unwanted rumble and hiss.

Here's wishing you many hours of fun with... Philta! The Vengeance-Sound Team

a full overview of 'Philta'

Let's start at the beginning...

Installing copy-protection:

First of all, you will need a Steinberg Key (also known as Syncrosoft / eLicenser dongle) plugged into a spare USB port on your computer. The dongle serves as a license i.e. copy-protection for your software. If you don't already own such a dongle, you can order one online (they are not expensive) from one of several sources, e.g. here:

http://www.thomann.de/gb/steinberg_key.htm

You will also need the configuration software 'License Control Center' (LCC):

www.elicenser.net

Please ensure that you have downloaded and installed the latest LCC version. Immediately after ordering Philta, you will receive an e-mail containing your license information. All you have to do then is to activate your license using LCC (note: you must be connected to the Internet)

Installation (PC):

Start the file VPSPXL.exe and install the plugin into your standard VSTPlugIns folder. Follow any further on-screen instructions. The plug-In should be available the next time you start your sequencer / host application.

Installation (Mac):

Unpack the file VPSPXL1.0.00.pkg.zip, then start VPSPXL1.0.00.pkg. Follow any further on-screen instructions.

The standard installation path for the VST version is: ~/Library/Audio/Plug-Ins/VST
The standard installation path for the AU version is: ~/Library/Audio/Plug-Ins/Components

After installation, please check that the VPS Philta files really do appear in that location. The plugin should be available the next time you start your host application.

Vengeance Producer Suite – Philta XL – an overview of the functions

For additional information, we recommend watching our product video, available at:

www.vengeance-sound.com

The Main Display

In the background of the main display you will see a FFT (Fast Fourier Transformation) analysis of the frequency response. As overlay, you will also see one or two response curves (yellow), which will move whenever you change the rolloff or cutoff values.

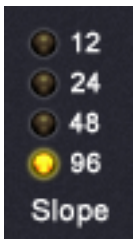
Depending on the currently selected tab (at the top and bottom of the display area), filter envelope, LFO, ring modulator, distortion and limiter will appear.

If you click on one of the small triangles within each tab, a translucent menu opens, letting you adjust settings. Tip: To close all menus at once, click on the 'X' in the top right corner of the display.

To the left and right of the display are input and output VU meters, which show the volume before and after the filter, respectively. Too loud signals (clipping!) are shown in red. For numeric reference, the decibel (dB) scales can be seen next to each VU.

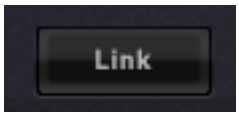
Controls around the display

Levels are controlled via the Input Gain and Output Gain knobs. Click on the centre mouse-button (if you have one) to set these back to their default values, i.e. 0dB.



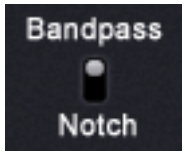
The filters' rolloff values ('Slope') can be selected in the centre beneath the display. To the left are the options for the lowpass filter, and to the right are those for the highpass filter.

The most important control in any filter is its Cutoff knob. Philta has two of these – one on the left for the lowpass filter and one on the right for the highpass. Its ubiquitous partner, Resonance ('Reso.'), which boosts the volume of frequencies close to the cutoff point, is located next to each cutoff control. The inner (grey) ring controls the amount of resonance, while the outer (silver) ring is the width of the frequency band. Resonance is responsible for the characteristic 'whistling' in a filter, and should be adjusted carefully if you don't want this effect to become too dominant.



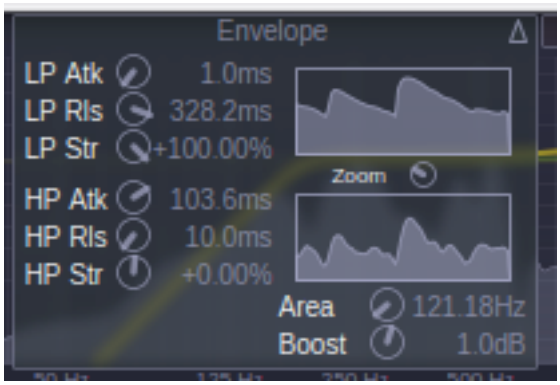
The cutoff values of the two filters can be controlled in tandem by activating the 'Link' button. When Link is active (yellow) the both highpass and lowpass cutoff positions will move together.

The standard mode for both filters used together is 'Bandpass'. However, the highpass and lowpass can be swapped, forming a 'Notch'. This arrangement causes phaser-like cancellation effects, which can be very useful for more experimental sound design tasks.



The Effect Menus

The Envelope Follower:



The Envelope Follower constantly measures input level, and these measurements are used to dynamically control the cutoff frequencies. There is also a graphic of this: To the right are two realtime displays showing the actual envelope shape.

LP/HP Attack: The Attack parameter determines how fast the envelope follower *opens* after a peak has been detected.

LP/HP Release: The Release parameter determines how fast the envelope follower *closes* after a peak.

LP/HP Strength: Determines how much the envelope follower opens the filter.

Zoom: Magnification factor of the graphic realtime display.

Area: As mentioned above, the envelope follower measures the amplitude of the input signal. The 'Area' parameter determines which frequency range of the input signal will be used. A frequency below 100Hz, for instance, could target the bass drum, mid-frequencies around 400Hz could be just right for the rhythmic content of a bass line, and high values above 4kHz could e.g. be triggered by the hi-hat. If you want to let Philta's envelope follower react to the entire spectrum, set the Area control to 'all'.

Boost: If the volume of the input signal is too low to be measured satisfactorily, you can boost it a few Decibels using this control. Boosting low signals will create stronger envelopes.

The LFO:

The LFO (low frequency oscillator) modulates cutoff frequencies at a user-defined rate (see Speed below). To the right of the LFO is a graphic display showing the LFO shape (see Shape below).

Speed: This parameter determines LFO rate. Please note that if you switch off 'Sync' (see below), the Speed values default to absolute Herz (0Hz – 10Hz). As long as Sync is on, Speed is measured in note lengths (1/4, 1/2 etc.), the LFO will lock to the song tempo and run 100% in time with the music.

Shape: The 'Shape' parameter determines the LFO's waveform. Philta offers a choice of 5 different shapes (Sine, Triangle, Saw, Dbl Sine and Mod Sine). We recommend trying them all out to see how they differ, how appropriate certain shapes are when processing different audio material.

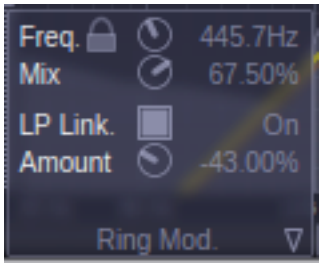
Sync: The Sync button toggles LFO synchronisation (to song tempo) on/off.

LP/HP Strength: How much LFO modulation will be sent to each filter.

Shift: The initial phase of the LFO when Sync is on (i.e. in which part of its cycle the LFO will start).

BPM: If your sequencer is unable to send tempo data, or if you wish to synchronise to a tempo other than the received clock, you can do that here.

The Ring Modulator



Philta's ring modulator appears in the menu as 'Ring Mod'. Ring modulation is closely related to AM (audio-rate amplitude modulation), and in Philta it is basically amplitude modulation from an extra oscillator. The results could be described as rather metallic, or even robot-like.

Freq: The frequency of the ring mod oscillator in Herz.

Mix: The volume of the ring mod effect.

LP Link: 'Low Pass Link' means that the frequency of the ring mod oscillator is linked to the lowpass filter's cutoff. They move in tandem: ANY change in the cutoff (including modulation from envelope and/or LFO) will cause a parallel change in the ring mod oscillator's frequency. While LP Link is switched on, the 'Freq' control is disabled (indicated by a small lock symbol) – it can only be edited after LP Link has been switched off again.

Amount: This control determines how strongly (%) the ring mod oscillator frequency follows cutoff while 'LP Link' is on. Note that negative values are also possible, in which case higher cutoff means lower ring mod oscillator.

The Distortion Menu:

Philta offers two different distortion effects: Firstly, a filter saturation (Drive) algorithm that produces soft or strong distortion. Secondly, a sample rate reducer that lowers the signal's resolution as well as its bit depth.

Drv Level: The intensity of the distortion effect, in percent.

Pre/Post: Determines whether the distortion effect is inserted *before* or *after* the filters in the signal path. This makes a massive difference to the sound – try it out!

Rate: This control sets the intensity (%) of the sample rate reducer. 100% means full resolution i.e. no change, while 0% means very drastic reduction. The appropriate amount of bit depth reduction is added automatically.

Pre/Post: Determines whether the sample rate reducer is inserted *before* or *after* the filters in the signal path. Again, this makes a significant difference to the sound.

LP Link: If this option is switched on, the sample rate reducer value is linked to the lowpass filter's cutoff frequency. They move in tandem: any change in the cutoff (including modulation from envelope and/or LFO) will cause an equivalent change in the sample rate reducer. While LP Link is switched on, the sample rate reducer is disabled (indicated by a small lock symbol), and can only be edited after LP Link has been switched off again.

Amount: This control determines how strongly (%) the sample rate reducer will follow the cutoff while 'LP Link' is on. Negative values are also possible, in which case higher cutoff frequency causes lower sample rate reduction.

The Output Limiter:

Philta also features the high-quality output limiter used in Vengeance Mastering Suite – Multiband Compressor. Philta's limiter is used to prevent particularly loud signals from causing digital clipping. The limiter includes a gain reduction meter (GR), a realtime display of how much gain reduction (in dB) was necessary to avoid clipping.

Rls: the Release parameter determines how quickly the limiter will return to the original level after gain reduction. Short release times mean a denser (louder) sound, but can produce unwanted 'flutter'. If you set release to minimum, this puts the limiter into 'auto' mode – Philta adjusts release times automatically (and dynamically) according to the amount of GR. Auto mode is recommended for beginners.

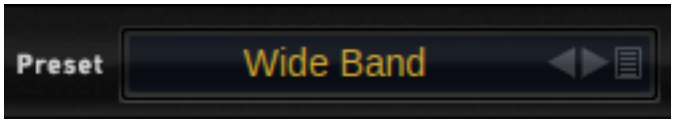
On/Off: Switches the limiter on or off. Also good for A/B comparisons.

Out Gain: Fine control over the output of the limiter, 1dB attenuation.

GR Meter: The gain reduction meter shows how much (in dB) the limiter had to reduce gain in order to prevent clipping. We recommend setting the input level such that when the filter is fully open, the GR is not permanently beyond the usual -3dB to -6dB range. Higher (negative) values mean that your input signal is simply too loud. If necessary, please turn down the input gain.

Global: In Philta, the limiter is switched on by default, it is applied globally to all presets. Should you wish, it can be switched off here – but please remember that the limiter will stay off until you explicitly turn it back on!

<u>The Preset Browser:</u>



The large text field shows the name of the currently selected preset. To change it, double click on the name.

To the right is a pair of arrows which you can use to scroll backwards or forwards through presets.

On the far right is the preset browser menu where you can manage all your presets. Functions include Save, Load, Delete and Rename, as well as direct selection of a particular preset (arranged in folders). An 'Init Preset' is also available here, a suitably neutral template for all your own creations.

Tip: If you ever need to find (on your hard drive) the folder where Philta presets are stored, for instance if you want to make backups or send a few presets to your friends, simply click on 'Go to Preset Folder' in the browser menu.

Tips and New Features via Update:

Tip: All controls in the plug-in window can be fine-tuned via right-click. Clicking on any control with the centre mouse button resets the control to its default value.

We plan to continuously extend and improve 'Vengeance Producer Suite – Philta XL' via regular updates. As soon as new functions have been tried, tested and delivered, they will appear in this section.

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