

elysia



# PHIL'S CASCADE

plugin manual



## PHIL'S CASCADE

is everything but your typical audio processor – it's just not meant to fix things or add so and so many percents of final glory to your mixes and masters. Rather than that, Phil's exclusively opens an amazing toolbox for creating most interesting sound flavors based on highly esoteric vintage components combined in a truly unique circuitry.



## THE BEAUTY

of this approach is that it did not have to follow any rules at all. Phil's Cascade uses very interesting NOS components which are everything but standard in audio applications, and the completely novel circuitry is a creative celebration of its own. All in all, this gives you the perfect basis for creating truly wonderful, new and unheard sounds.

## NOW YOU CAN

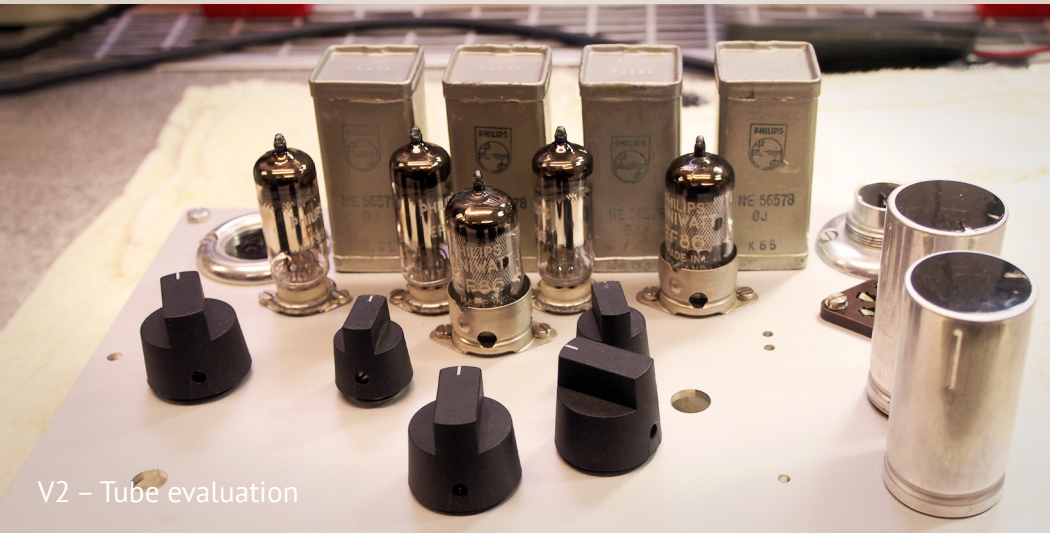
spice up virtual and natural instruments at ease, transmuting standard sounds with all kinds of gritty, organic and aged flavors. There are no typical right or wrong settings: Saturation, harmonics, distortion, coloration, filtering, interaction... anything goes, and experimenting is as much encouraged as it is rewarding.



## ENJOY THE RIDE!



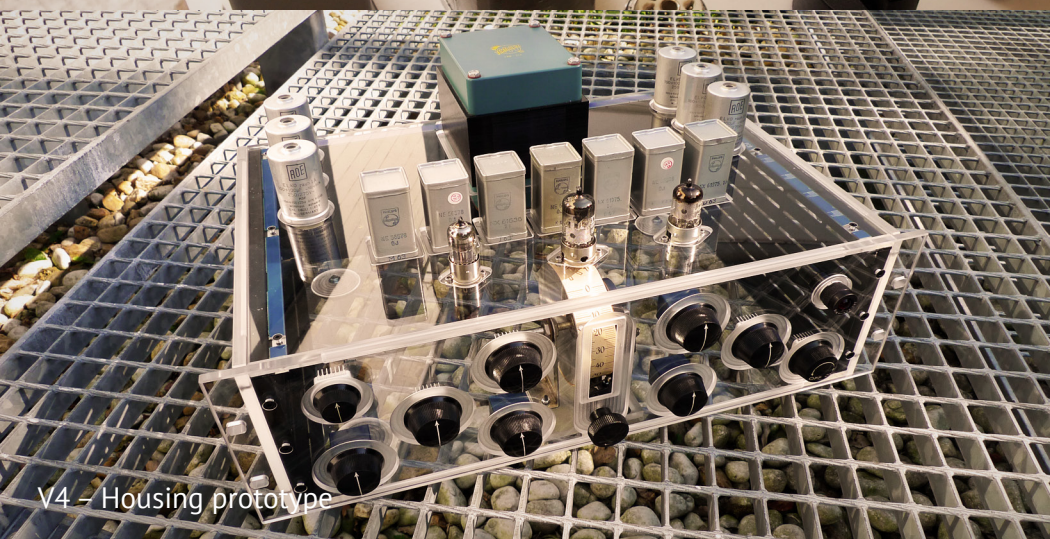
V1 – Getting started



V2 – Tube evaluation



V3 – More transformers



V4 – Housing prototype

## IT'S ALIVE

Like every elysia plugin released so far, Phil's Cascade has been modeled on a real analog hardware. However, this one has exclusively been planned, designed and built to then become a plugin! Painstaking analysis and modeling of circuit and component behavior finally made this monster become available for your DAW.

## THERE CAN BE

only one. What a pity, but you can rest assured that the hardware will never go into serial production. Most of the parts are so rare that they would last for just a hand full of units, with environmental restrictions forbidding to use them in new products anyway. And the price point for this beast would be pretty demanding as well, to say the least.

## SPICES, SPICES

All components used for Phil's Cascade were made when we were kids (or not even born yet) by legendary brands like Philips, Sprague, Erdmet, Wima and PSW – the very best of New Old Stock. Just have a look at the last page of this manual to learn more about some of these amazing ingredients.

# INTERFACE



The central element is located in the middle: The Gain!

The left side is where all the magic happens.

The right side controls and tames things if necessary.

# QUICK START



- ① Activate/bypass the plugin with the STATUS control (pilot light on = active).
- ② Set the desired amount of harmonics/saturation with the central GAIN control.
- ③ Use BOOST for even stronger gain effects.
- ④ Engage the FILTER if distortion gets too harsh, or for a generally darker sound.
- ⑤ BIAS will make things sound fatter or thinner.
- ⑥ GRID significantly changes the complete sound structure (works best with medium BIAS settings).
- ⑦ RESONANCE enhances high mid frequencies (effect is reduced with higher FILTER settings).
- ⑧ Use higher PEAK settings for a more focused/obvious RESONANCE effect.
- ⑨ LEVEL provides clean cut/boost for adequate level compensation.
- ⑩ MIX sets any desired blend of the original and the processed signals.

# PARAMETERS



## BOOST

Adds significant amounts of boost to the current gain setting. “Off” means off, “Boost 1” means a serious boost, and “Boost 2” means even more. The sonic effect always depends on the current setting of the GAIN controller – generally speaking, the two boost modes increase the distortion intensity and shift the effect more towards the higher frequencies. This controller is level compensated, so the overall volume does not skyrocket caused by the many dBs of boost. Technically, the BOOST function controls which of the two plates of the ECC91 tube of Phil’s Cascade is tapped (“Boost 1” or “Boost 2”) and fed into the next stage or whether it is completely bypassed (“Off”).

## BIAS

This sets the operating point of the central EF186 gain tube. Lower values represent a lower cathode bias resistance, resulting in more gain and more total harmonic distortion (THD). Higher values will result in darker and thinner sounds.

## GRID

Pure magic! GRID determines the amount of interaction in between the screen and cathode terminals of the EF186 pentode. Each step will result in a different relation of frequency response and harmonic spectrum... an amazing sonic playground. *Note:* The effects of the GRID are highly dependent on the setting of the BIAS (very subtle at 0, the contrary around 5).

# PARAMETERS



## RESONANCE

This controls a special peak EQ for emphasizing high mid frequencies in between 1.5 and 8.4 kHz. Try this on a high hat for experiencing how it changes character with every single step! With different material, some settings almost sound like a gramophone... *Note:* The RESONANCE effect diminishes when higher BIAS settings are used.

## PEAK

The quality (Q) factor and gain of the RESONANCE filter can be altered here. Turning clockwise will result in a more pronounced and narrower bell curve, so the effect of the filter will be more focused around its center frequency. Lower settings correspond to a broader and flatter bell response.

## GAIN

This is the central element of Phil's Cascade, as it controls the gain with which both the EF186 pentode and the subsequent EF86 triode are driven. This combination is hard to exactly express in dB, and the control has been level compensated to avoid the insane increase in level generated by the original hardware – therefore the range goes from 0 to 100. Turn clockwise for more saturation, distortion, coloration, thump... fun.

## MIX

Onboard parallel processing included, which means you can blend any desired mix of the original and the processed signals with this control. Left is dry, right is wet.

# PARAMETERS



## LEVEL

This is a completely linear level control which does not affect the sound character. It provides 15 dB of boost and cut to compensate for level-related effects of the prior stages. This permits easy A/Bing and eliminates the need of additional gain plugins. *Note:* Neutral position is at 12 o'clock.

## FILTER

This is a first order high cut filter realized using an inductor and resistor based cathode bias network in the EF86's wiring. It reduces the high frequency shares, which is very welcome if distortion gets too harsh, or if a generally darker sound is sought after. *Note:* Lower cutoff frequencies will reduce the intensity of the RESONANCE filter effect.

## LIGHT

Just give it a try... it actually behaves exactly as in the real world. This is a global setting which will always be used for all instances of Phil's Cascade.

## STATUS

This activates or bypasses Phil's Cascade. When active, the orange pilot lamp lights up. The illumination of the GAIN scale always shines on, by the way.



# TOOLBARS



- ① Undo/Redo offers up to 32 steps of your recently made settings. Just go back and forth.
- ② Four individual preset banks which can also be automated in your DAW.
- ③ Copy and paste current settings to/from clipboard, or reset current settings to default.
- ④ Activates 20% component tolerance between left and right channel (blue = on).
- ⑤ Opens GUI preferences (Hide top for less screen estate, set GUI size and quality).
- ⑥ Clicking the Plugin Alliance logo will send you to the PA website via your web browser.
- ⑦ Shows the type of license you're running and the number of days in case it's limited.
- ⑧ This icon will guide you to the Plugin Alliance Store via your web browser.
- ⑨ Brings up the activation dialog for authorizing plugin licenses for your devices.
- ⑩ Here you will find the manual (requires PDF reader installed) and other useful info.

System Requirements & Supported Platforms  
Installation, Activation, Authorisation and FAQs  
More elysia at Plugin Alliance



These caps were made by Roderstein (ROE) way before the company was acquired by Vishay in a time when even 'smaller' capacities came in a considerable footprint. Anyway, this batch of truly beautiful caps offers all the capacity needed for Phil's Cascade – and then some!



The 12 lb. power transformer used for Phil's Cascade originally comes from vintage Tektronix measuring equipment, surviving the times when even this was based on tubes exclusively... With its many windings and taps, this mothership of a transformer is perfect for a multi tube-driven project.

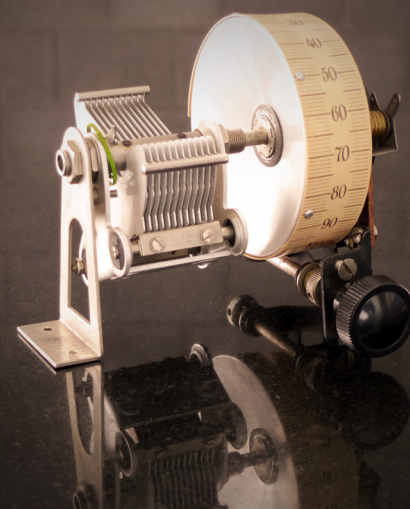
Phil's Cascade is controlled by a set of authentic bakelite knobs, made in the US many decades ago. Just a few of the knobs in this batch (a lucky find) were in such great condition, only showing signs of their respectable age, but no significant discolorations or cracks.



The NE and NX series transformers made by Philips in 1975 were actually never meant to be used in audio environments. However, first experiments quickly revealed they perform like real rock stars, now building the core ingredient forming the unique sound of Phil's Cascade.



All components used for Phil's Cascade were made when we were kids (or not even born yet) by legendary brands like Sprague, Erdmet, Wima and PSW – the very best of New Old Stock, carefully selected and point-to-point wired by the experienced hands of Roger Schult.



What a stunning piece of engineering art! Rotary capacitors like this were used in old tube radios. The scale is especially stunning on this one, beautifully backlit by a small E10 light bulb. After a little bit of modification, this historic piece became the central gain controller of Phil's Cascade.

This pilot light is very rare new old stock made around the 1950s. It shines a truly significant shape of light, but the wildest aspect about it is the light intensity which can be dimmed down mechanically, until just a tiny spot in the middle of the lens remains. Wicked!



Beyond the few tube types which are still available for serial production these days, the rabbit hole of weird, amazing and yes, magic NOS tubes couldn't be any deeper. All made by Philips long time ago, the ECC91, EF183 and EF86 are everything but your typical audio tubes...

