

Diezel VH4

Plugin Manual



Developed by Brainworx Audio in partnership with Diezel GmbH and Distributed by Plugin Alliance.





The iconic, first Diezel amp!

The mighty VH4 head is the powerhouse that put Diezel on the map. Dissatisfied with the sounds from commonly available amps, rocker Peter Diezel created the VH4 tone monster in 1994 just to please himself – and got so many requests from tone-hungry fellow guitarists for their own Diezel amps that he had to put the VH4 into production.

The VH4 head features a beefy 100 Watt output section with four distinctly-voiced preamp channels, each with separate gain, EQ and master controls.

With a highly-versatile four-channel preamp section (Clean; Crunch; Mega and Lead), virtually any sound you can think of is on tap. At lower gain settings, the Clean channel produces the now-classic Diezel sparkle & chime but crank up the gain a bit and the Clean channel can get into that robust Townshend/Hiwatt zone. The Crunch channel begins where the Clean channel leaves off, delivering hearty vintage cleans to glorious AC/DC-style rhythm and lead sounds. The Mega channel delivers Diezel's trademark - highly-defined heavy metal rhythm sounds to soaring solo sounds. The lead channel carries over from Mega, more gain, more compression, more bottom, more smooth top end – creamy, authoritative, loud.

The power stage of the VH4 is rated at 100W, driven by four JJ KT77 output tubes. Power amp controls include a master volume (maximum clean volume at around 1'o'clock, beyond that adds power amp distortion), global presence (centered at around 4K) and a "Deep" knob, which is an active bass control that adds low end punch (centered at around 90 Hz).



Not only does the plugin nail the heart and soul of the Diezel VH4 but you'll find the extra features you've come to expect from Brainworx products. A full FX Rack with host syncable lo-fi delay, noise gate, tight and smooth filters, power soak and a power amp bypass feature.

On top of this you find no less than 120 advanced impulse responses created at Brainworx's studio using various boutique cabinets, high end microphones, their Neve VXS console, SSL 4000 Channel Strip, Amek 9098 Channel Strip and the legendary Telefunken V76 Pre Amp.

Key Features Summary

- Exacting emulation of the original Diezel VH4 Tube Guitar Amp Plugin approved by Peter Diezel and Peter Stapfer
- Sonically flexible amp head with iconic high-gain tones
- 4 completely independent channels cover a massive range of gain
- Global presence and deep controls dial your tone into your venue
- 100 watts of KT77 tube tone
- 120 Brainworx' advanced impulse responses included
- FX Rack include host-syncable lo-fi delay, noise gate, tight and smooth filters, power soak, pre and power amp bypass



Diezel VH4

Plugin Manual



Amp

1 Channel 1 (Clean)

This channel was designed for clean, undistorted sound with high power and good harmonics. With its gain control to the upper third, it sounds soft and warm, gain at lower settings produce more percussive and penetrating clean sounds. Full gain setting makes crunch sounds possible. The tone reminds of a cross between a twin and a Hiwatt® 100, but with better overall dynamic response.

2 Channel 2 (Crunch)

Channel 2 is a blues guitarists closest friend. Its dynamic spectrum is especially beautiful in the lower frequency range. Its gain range goes from clean to distorted. Due to its different voicing the 2nd channel will sound a little softer than channel one in clean mode (gain 2:00-3:00, and approaches channel 3's tone in high gain mode (gain 3:00-4:00, but with softer midrange and less compression. "Raw" probably best describes this channel.

3 Channel 3 (Distortion)

Its concept is heavy rhythm guitar. The distortion is noticeably tighter than in channel 2. The side effect of this added compression is that the signal gets somewhat limited in its dynamic range. This limitation hits mostly the lower frequencies. This loss is corrected by a negative feedback loop to the power amps, which adds fat low end to this tone without muddling up the tone. The control for this low end is in the master section and bears the "Deep" designation. The gain structure of channel 3 is designed to deliver great distorted sound even with guitars that have relatively low output, like many vintage guitars. The side effect here is that guitars with very high output (active EMG® etc.) might overdrive this channel too much and become too compressed. The guitar loses its punch in the band sound and becomes very undefined. In this case, a radical gain reduction is the cure. The guitar sound will clean up a little bit, and the overtones and harmonics will once again sparkle. It is best to start with a 12:00 o'clock gain setting and start to feel your way to the point of perfection and very little compression. This works best while the band is playing with you. Remember - less is often more.



Diezel VH4

Plugin Manual



1 Channel 4 (Ultra High Gain)

The Solo channel. A little more mid heavy than channel 3, therefore punches through the band sound quite well. See channel 3 description for gain control setting. Often a gain setting near 1:00 o'clock is sufficient for absolute high gain distortion. Use the volume control here and for all other channels to match the individual channel volumes

2 The Master Volume

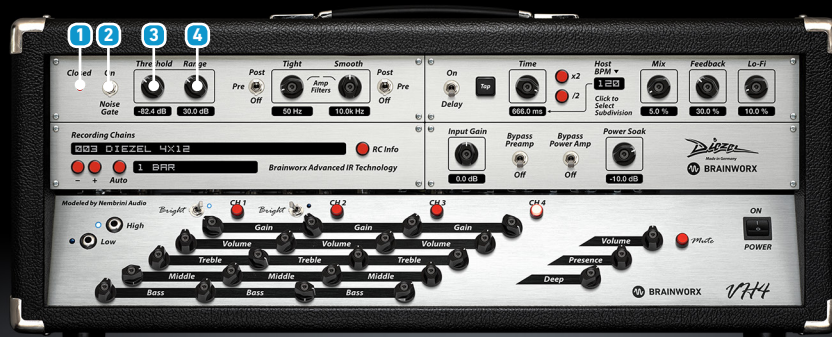
controls the final volume of the Power amplifier(s). The layout of the controls is such that full volume is achieved at the 1:00 o'clock knob setting. Turning the knob further will overdrive the power amp(s) to create power amp distortion for those of you that prefer this sort of thing. We added this feature to round out the distortion sound palette on the extreme end. So you friends of all things vintage can get colorations and distortion textures that only power amp tubes can deliver. Bring your ear plugs, please.

3 Presence

This knob controls the treble part of the power amps tone spectrum. Its frequency centers at about 4kHz. Treble is produced and dispersed in a very small beam from the speaker, so be sure to position yourself in the projection area of the speaker when making adjustments.

4 Deep

The Deep control is an active bass control for the power amp that adds low end punch to the power amp centered at 80Hz. It does not alter the dynamic behavior of the power amp. Diezel Co. is not responsible for cabinet handles popping out etc.



Diezel VH4

Plugin Manual



FX Rack

Noise Gate

1 Closed

When lit, this LED indicates that the Noise Gate is Closed. This means the Threshold setting is higher than the incoming signal and the noise gate dims the output signal of the amplifier by the amount adjusted with the Range control (e.g. 30dB in the picture above).

2 Noise Gate on/off

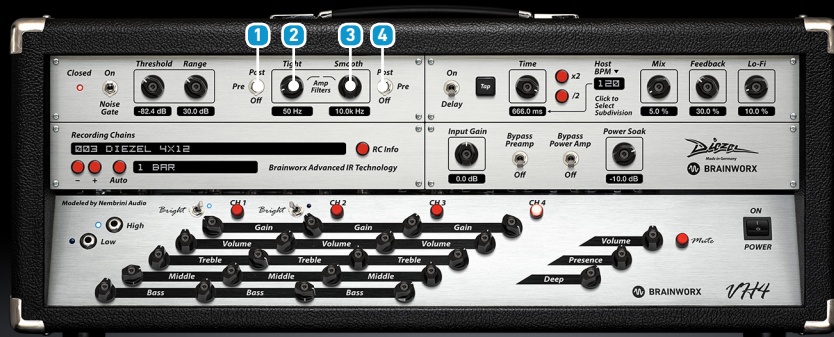
On/Off switch. Enable or disable the Noise Gate completely. Switch up ('On') means the Noise Gate is activated.

3 Threshold

Continuous knob, -120db to 0db. The Noise Gate will dim the output signal of the amplifier as soon as the input signal (your guitar signal) falls below a certain level. This level is called Threshold. Adjust the Threshold so the noise of the overdriven amp will be reduced, but make sure you don't cut fading notes or chords.

4 Range

Continuous knob, 0db to 100db. The output level of your amplifier will be reduced or muted when the input signal is lower than the Threshold setting. You may dim the output level only by a few decibels (dB), or completely mute the output in pauses by setting the Range to its maximum.



Diezel VH4

Plugin Manual



Amp Filters

1 Tight Filter

Three-way switch: "Pre", "Post" and "Off". With the Tight filter you can cut Low frequencies of either the DI guitar signal (Pre) or the processed amp output (Post).

- **Pre:** If your pickups produce an unintentional rumbling bass sound you can filter the low end before the DI sound even hits the amplifier.
- **Post:** If you want to cut some of the low end of your amplifier setting (maybe even only temporary) you can use this studio quality high pass filter to reduce the bass.
- **Off:** When set to Off the Tight filter is in bypass mode.

2 Tight Frequency

With the Tight filter you can cut Low frequencies of either the DI guitar signal (Pre) or the processed amp output (Post).

3 Smooth Frequency

With the Smooth filter you can cut high frequencies of either the DI guitar signal (Pre) or the processed amp output (Post).

4 Smooth Filter

Three-way switch: "Pre", "Post" and "Off". With the Smooth filter you can cut HIGH frequencies of either the DI guitar signal (Pre) or the processed amp output (Post).

- **Pre:** If your pickups catch a lot of hiss or noise you can filter the high end before the DI sound even hits the amplifier.
- **Post:** If you want to cut some of the high end of your amplifier setting (maybe even only temporary) you can use this studio quality low pass filter.
- **Off:** When set to Off the Smooth filter is in bypass mode.



Diezel VH4

Plugin Manual



Delay

We closely modelled a vintage delay stomp box to capture the true essence of retro delay effects. Limited frequency bandwidth and ever decreasing high frequencies on repeats add authenticity to the sound. We also included more contemporary features like a mix parameter & DAW controlled bpm / tempo sync. We realise you will use your favourite selection of external effects, such as Chorus, Flangers, Reverbs and even other Delays to achieve your signature guitar tone but an instantly accessible delay is extremely useful when surfing and creating patches. For example, testing a new lead patch without hearing at least a touch of delay wouldn't sound realistic for many players, so we added this effect for your convenience; plus we love vintage style echo!

1 Delay On/Off

Use this parameter to activate or deactivate the delay and all of its parameters with this switch.

- **Switch up:** Delay is activated.
- **Switch down:** Delay is bypassed / off.

2 Tap*

Use this parameter with your mouse to click with the groove of the song and the delay will adjust to your tapping automatically. This is a nice and easy way to set delays to musically pleasing times, especially if there is no fixed tempo in the song.

3 Time

Alternatively you may just dial in a delay time based on milliseconds using the Time knob. Use this parameter to adjust the delay time between 15ms and 1000ms.

4 x2*

Use this button to redouble the current Delay time.

5 /2*

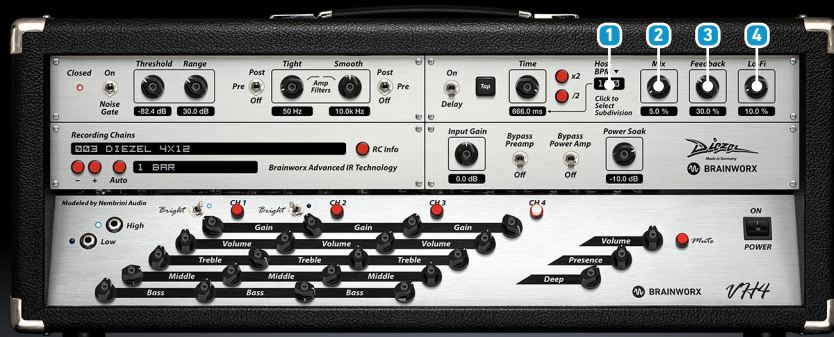
Use this button to half the current Delay time.

x2 & /2 Buttons

Both buttons can be pressed repeatedly as long as the maximum delay time of 400ms is not exceeded.

* Note: Custom control, not automatable





Diezel VH4

Plugin Manual



1 Host BPM

Click on the BPM number in the GUI and a pull-down menu opens up. Now you can select musical values like half notes, quarters, triplets, etc. All values will be based upon the tempo that is being displayed in the BPM window. The tempo will be synced with the tempo of your audio session automatically.

2 Mix

Use this parameter to control the amount of dry (unprocessed) vs. wet (processed) signal. The Mix parameter blend in as much delay signal with the dry amplifier sound as desired. For unobtrusive delays we recommend settings around 10%, heavier effect sounds may require settings of 50% or more.

3 Feedback

This controls the number of repeats. While a setting of 99% will result in an almost infinite delay loop, a typical setting for a rock lead sound may be around 25%.

4 Lo-Fi

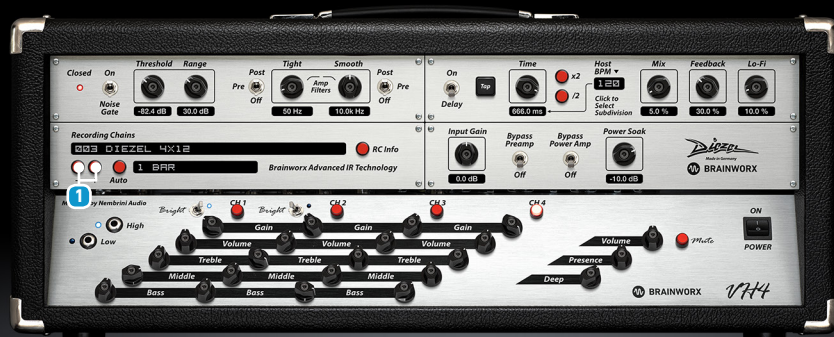
Use this parameter to add creative destruction to your delay signal. With the Lo-Fi knob you control the amount of internal distortion, the resampling quality, etc. The higher you go the worse the quality gets from a pure technical stand point... but the more interesting it may sound for many guitar sounds and styles.

Recording Chain

Brainworx Advanced IR Technology

Simply select a speaker and a complete studio setup by browsing through the Recording Chains pull-down menu.

In the past two decades Brainworx owner Dirk Ulrich has produced and recorded with members of Dream Theater, Toto, Michael Jackson and with many more famous and infamous acts. The Brainworx Studio in Germany (www.brainworx-studio.de) is equipped with one of only nine NEVE VXS 72 consoles ever made, and it also hosts some of the best outboard EQs and mic pre-amps available.



Diezel VH4

Plugin Manual



Using this impressive setup Dirk has produced a huge variety of customized 'Recording Chains' for the Diezel VH4 amplifier, which you can apply to your Plugin amp settings. Imagine a selection of 120 perfectly mic'd and EQ-ed cabinets that you can select and use instantly with a single mouse click!

We carefully placed up to 12 microphones on each cabinet used. These mics were then fed to individual channels on the vintage Neve VXS console. This configuration gave us fine control over the mix of the various microphones used and the ability to apply Neve filters and EQs. The final mix was routed to Pro Tools for recording.

An innovative new approach was also used to capture various pre-amps and EQ chains. A parallel chain was created that was split to three different hardware preamps and EQs. These parallel chains were also routed to their own discrete channels on the Neve VXS console and then sent to Pro Tools for capture. This routing allowed us to record each chain individually or blend them for interesting combinations.

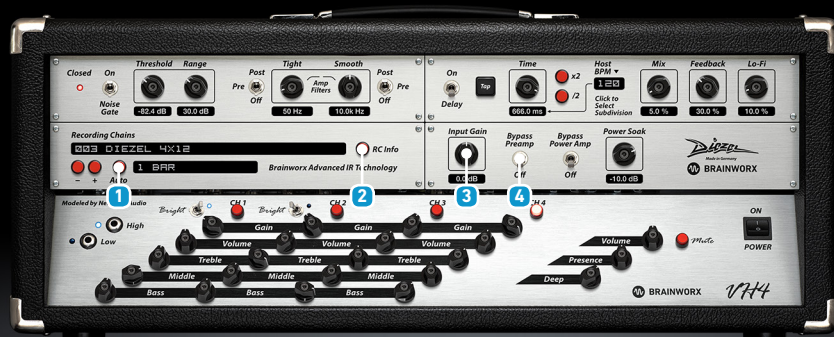
Many amp simulations give you some captured impulses of a selection of cabinets and microphones, then they leave it up to you to EQ and further process these incomplete setups by mixing different microphone setups, adjusting phase and EQ, and so on. But this really is not an easy job; it takes years of experience to get it right.

Now all you have to do is select the Recording Chain that sounds best for your amp channel and setting, adjust the Tone Stack and Gain and you're good to go. Recallable, reliable, flexible and fast.

And if for any reason you should not like any of the Recording Chains the Plugin offers, you may use the very last setting (labeled Cabinet Bypass) and use your own mic'd cabinet or external IR software. This setting will also give you the sound of a tube amp wired straight into a console, which also may be a nice effects sound.

1 + / - Switches (Plus / Minus)

Browse through the Recording Chains by either using the pull-down menu of the Recording Chain text box (see above) or just click through the settings using the '+' and '-' symbols.



Diezel VH4

Plugin Manual



1 Auto & Bar selection

If you are trying to find the best sounding Recording Chain for your song it can be a hassle to have to play a few chords, grab the mouse to select the next Recording Chain, play a few notes again, grabbing the mouse again, etc.

For this reason the Diezel VH4 offers you Auto mode: Just select a pattern (1 Bar, 2 Bars or 4 Bars) and the Plugin will activate the available Recording Chains automation, following the actual tempo setting of your DAW. You can now play uninterrupted and simply listen to the sound of the various Recording Chains as the Plugin switches through all of them every single bar, every two bars or every four bars, depending on your setting. As soon as you hear the speaker setup you like best just stop Auto mode by clicking the AUTO button again and manually select the desired Recording Chain. Afterwards just fine-tweak the Tone Section and Gain and there you are.

2 RC Info

The RC Info feature showing you exactly what kind of setup was used to produce the Recording Chain you selected.

3 Input Gain

If you want to drive the input of the Diezel VH4 preamp harder or softer you may adjust the input gain to your liking. Some single coil pickups from older or vintage guitars may deliver low level output that can be compensated with the Input Gain. The opposite goes for a lot of heavy metal style humbuckers. If you have recorded the DI signal too hot or if you are using other Plugins before entering the Diezel VH4 amp Plugin you may want to dim the input signal.

With most standard guitars you can and should leave the Input Gain at 0 (zero) though.

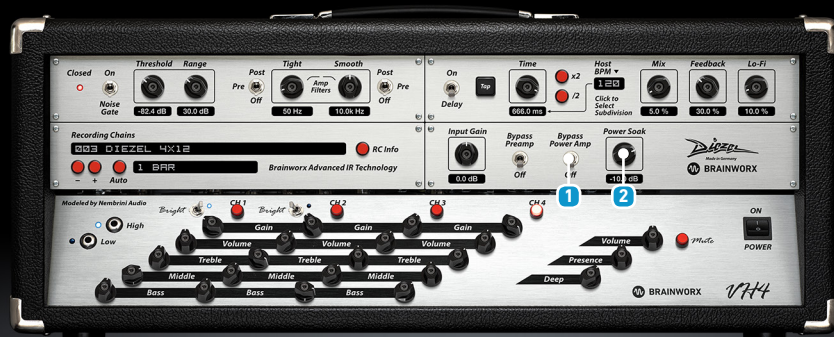
4 Bypass Pre Amp

Bypass the pre amp section.

With the Bypass Pre switch you can switch off the Diezel VH4 preamp completely, which may be wanted if you record your own hardware (tube or solid state) guitar pre- amp with the Diezel VH4. In this case you may still use the internal Power Amp and speaker / Recording Chains simulation and will be able to achieve amazing results recording your guitar sounds without using an external Power Amp and speaker.

Switch up: Preamp is bypassed (off), Switch down: Preamp is active (on).





Diezel VH4

Plugin Manual



1 Bypass Power Amp

If you want to use only the distortion of the Diezel VH4 preamp you may switch the threshold amp simulation off. This may sound cool if you use the Diezel VH4 plugin to distort other signals than a guitar. For a realistic guitar recording we recommend leaving the power amp on, as it is an integral part of the overall sound of the amp.

2 Power Soak

Controls the output volume.

In the Hardware world power soaks are being used to reduce the volume of a guitar power amp. This way you can crank up a (tube) guitar power amp to drive it until it starts clipping, and still record at a volume which will protect your hearing and keep the neighbors friendly. A clipping tube power amp adds distortion and harmonics to the guitar amp signal and is something most guitar players love. A fully cranked up tube guitar amp tamed in volume with a power soak will sound different than the same amp with the master volume turned down. We have modeled the behavior of the Diezel VH4 tube power amp, so you may experiment with different settings of the Master of the amp and the internal Power Soak. We recommend a setting of roughly -10dB for most scenarios.

Cabinets we used for the Recording Chains

Diezel 4x12

Front loader cabinet Celestion G12K-100 loaded

The Diezel-412FK is a front loaded 4x12" cabinet loaded with 4 x G12K-100 Celestion speakers. This cabinet is constructed of 18mm African Okume wood.

At the heart of this cabinet are Celestion's „monster of rock“ - the G12K-100s, which deliver huge power handling with superb clarity across a wide frequency response. This cabinets delivers a massive bottom-end, rock-hard mid-range and restrained top-end make this ideal for modern high-gain tones.

As with all Diezel cabinets, oversized 12-gauge speaker wire is soldered between the speakers and the terminal. This handcrafted cabinet includes detachable casters and is designed to withstand the rigors of the road.



Diezel VH4

Plugin Manual



Suhr 4x12

Suhr custom made 4x12" Speaker Cabinet (Straight) loaded with four Vintage 30 Speakers.

American 4x12

Mesa Boogie Rectifier® 4fb 280W 4x12 Vintage 30

The STANDARD Rectifier® 4x12 is the "oversized" 4x12, providing thundering low-end punch and resonance which is perfectly tuned with the smooth, tailored midrange and articulate, clear high-end. This is the most popular 4x12 cabinet and an icon in heavy music.

English 4x12

Marshall 1960TV Lead 100W 4x12 Greenback G12M-25

The 1960TV is loaded with Celestion® G12M-25 Greenback speakers, which are more forgiving than the 75 Watt Celestions used in the 1960A™; the 25 Watt Greenbacks have a warmer, more saturated sound. This 100 Watt mono cabinet is 65mm taller than a 1960A and 1960B™, which results in a lower mid-range resonant response.

To re-create the classic looks and tones of yesteryear, Marshall offers the 1960TV cabinet. The 1960TV houses four Marshall/Celestion designed

re-issue 25-watt Greenback speakers and is finished with the mid-to late-'60s style EC fret cloth and the smoother levant covering. The Marshall 1960TV stands an impressive 4 inches taller than a standard 4 x 12" - hence the ,TV' in its name which is an acronym for ,Tall, Vintage'

.ORANGE 4x12

Orange® PPC 212 closed-back 120W - 2x12 Celestion Vintage 30 speakers

The 120W Orange Amplifiers PPC212-C guitar speaker cabinet is crafted using 13-ply high-density 18mm birch plywood throughout like every Power Projection Cabinet (PPC). Orange speaker enclosures, like Orange amplifiers, are built to last with manufacturing techniques that assure extremely rugged construction. Orange's unique ,skid' design feet help to acoustically couple these cabinets to the stage to provide a tighter bass response and full range definition. All Orange Amplifiers' speaker enclosures are equipped with Celestion Vintage 30 speakers and are equipped with comfortable flush cabinet handles. The Celestion Vintage 30 Speaker recreates the sound of the original Celestion Blue with new cone and coil assembly. Improved performance: rated at 60W capability, handles extra heat generated by higher power equipment. The Vintage 30 handles massive overdrive tones with ease. It's a classic 2x12 loudspeaker.





Diezel VH4

Plugin Manual



Top Toolbar

1 Undo / Redo

You can undo and redo changes you made to the controls of the Diezel VH4 plugin at any time. The Undo / Redo will work for as many as 32 steps. This makes experimenting and tweaking knobs easy. If you don't like what you did... just undo it.

2 Settings (A/B/C/D)

The Diezel VH4 amp plugin offers four internal settings (A/B/C/D) which will be stored with every preset. So, one preset can contain up to four amp and effects settings.

You may use similar amp settings with more or less delay, different delay times, etc., to quickly switch between different sounds, or you can switch from clean to crunch to lead within one setup / preset.

The Settings can be automated in your DAW. This way it's possible to switch from a dry rhythm sound to a lead sound with tons of delay, for example.

3 Copy / Paste

To set up variations of similar sounds you don't have to dial in all the parameters several times. Let's say you like your setting A and want to use the same sound, just without delay, as setting B.

- Simply press Copy while you are in setting A.
- Switch to setting B by pressing 'B' in the settings section.
- Press Paste, now setting B is identical to setting A.
- Bypass the Delay.

Now you can switch between A & B and play the same sound with or without delay.

4 FX Rack

Toggle between FX Rack and Standard view.

5 About

Information about the development of the plugin.



Diezel VH4

Plugin Manual



Bottom Toolbar

1 PA Logo

Clicking the Plugin Alliance logo takes you to the Plugin Alliance website via your web browser, that's if your computer is online.

2 License Type

The toolbar displays information about the type of license you're running: Trial licenses will be displayed along with the number of days until expiration; there is no note for full licenses as these are unlimited.

3 \$ (Icon)

If you are using a demo / trial version of our products, you can always click this icon to open a browser that redirects you to the respective product page in the Plugin Alliance store. This is where you can easily purchase a product without having to look it up on our website.

4 Key (Icon)

Clicking on the key icon brings up the activation dialog, allowing you to manually reauthorize a device in the event of a license upgrade or addition. You can also use this feature to activate additional computers or USB ash drives.

5 ? (Icon)

Clicking the ? icon opens up a context menu that links to the product manual PDF, as well as other helpful links, e.g. to check for product updates online. You must have a PDF reader installed on your computer to be able to read the manual.

System Requirements & FAQ (Links)

For latest System Requirements & Supported Platforms

<https://www.plugin-alliance.com/en/systemrequirements.html>

Particular details for your product

<https://www.plugin-alliance.com/en/products.html>

Installation, Activation, Authorisation and FAQ's

<https://www.plugin-alliance.com/en/support.html>





Diezel VH4

Plugin Manual



Factory Presets

We have made a lot of presets for the Diezel VH4 amp plugin, many of them have been made to work perfectly with classic guitars like Strats, Teles or Paulas. All of the factory presets offer A/B/C/D variations, do try them out!

This effectively quadruples the factory sounds you can browse through, and many similar amp settings sound quite different with different Filter or Delay settings.

These presets are only intended to give you an easy start and to demo some of the tones you can get out of the Diezel VH4 amp plugin.

Creating your own Sounds & Presets

When you start to create your own sounds the most important elements to adjust are the Drive, Recording Chains and the Tone Stack.

(Bass, Middle, Treble, Presence, etc.)

- Set the controls of the Tone Stack to the center position ('12-o-clock').
- Play through as many Recording Chains as you like and pick the one that sounds closest to what you are looking for before altering the knobs.
- Once you found the Recording Chain you like best for your sound, start tweaking the Tone Stack and Drive to fine tune your amp settings.
- Add Delay or activate the Filters, the Noise Gate, etc. for variations of your sounds.
- Plug in, Rock out!

Experiment, be creative. We are confident that the different tone selections of the amp and the huge selection of Recording Chains will offer you many possible combinations that will sound great on a big variety of musical styles and genres.

Combine the Diezel VH4 amps with other plugins (dynamics, effects, room simulation), and you will be able to create countless world-class production-ready guitar sounds in the box. Enjoy.



BRAINWORX

Plug in, Rock out! - www.brainworx.audio