

Engl E646 VS

Plug-in Manual



Developed by Brainworx in partnership with Engl Limited and
Distributed by Universal Audio.



brainworx 



The new Engl E646 Victor Smolski Ltd.

Unique and remarkable design and awesome signature sounds wrapped into snakeskin. 100 watts of 6L6 power tubes trapped behind hand-soldered iron chains. Adjusted and dialed in for the modern metal guitar player.

Four channels of pure tube attack power deliver the widest modern range of tones you can expect from an amp.

The E646 plugin faithfully delivers all the fast attack, punchy rhythm, furious lead tones and the modern, sparkling clean sounds of the original amp. Through meticulous component modeling, that plugin version also captures the smooth, sonic transition of well-selected channel layouts including an adjustable Mid Boost switch in order to create modern rock tones from sustained shining clean to a vintage vibe crunch sound.



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Features

- Exacting emulation of the original Engl E646 VS Guitar Amp.
- Four channels: Clean, Crunch and 2 Lead Channels, each channel with separate Gain and Volume knobs.
- Two voicing sections specially tuned for each channel: One three-band EQ for Clean and Crunch modes and one three-band EQ plus the „Middle-voiced“ control pot for Lead Ch 3 and Lead Ch 4.
- Two Treble controls for Clean and Crunch: a very special feature that lets you tweak the high-end response in both Clean and Crunch modes individually.
- EQ-system in the power amp circuit: Presence and Depth Punch.
- Newly developed Power Amp Simulation including on-board Power Soak.
- Two power amp Master knobs: Use these knobs to adjust two different power amp volume settings, and switch them on the fly.
- 64 Brainworx's advance Recording Chains recorded in Brainworx's studio using the NEVE VX572 console, stellar outboard gear and World Class microphones
- FX Rack include host-syncable lo-fi delay, noise gate, tight and smooths filters, power soak, pre and power amp bypass.
- Unison™ Technology for Apollo Interfaces.

The main applications for this plug-in are

- Achieve exceptional-sounding electric guitar tracks at any volume level, without the need for great-sounding rooms or expensive guitar mics.
- Record electric guitars directly into the DAW, and then mix, edit and process without ever leaving the DAW environment.
- Re-amp less-than-perfect DI guitar tracks previously recorded in other guitar-amp situations.
- Faithfully emulate highly sought-after electric guitar tones made famous by rock's greatest guitar players.
- Get intense amounts of distortion without the need to maintain a high output volume.
- Have a piece of rock and roll history right in your DAW that feels and responds like a physical amp when played through Apollo's low-latency monitoring.
- Playing live via a real power amp and speaker setup.
- Playing LIVE, plugged straight into a live console and / or an in-ear system.



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Unison Technology

 The Engl E646 Victor Smolski plug-in was developed with the Apollo series interfaces in mind and made compatible with Unison preamp technology. Of course the Engl E646 Victor Smolski will work with any UAD-2 device, but to experience ultralow latency along with important impedance, gain 'sweet spots', and circuit behaviors of the real amp, you need an Apollo interface. In order to do this, you should insert the Engl E646 Victor Smolski in the preamp insert position of Apollo's Console application. This will greatly enhance your experience, making the tone and behavior of your sound an exacting replication of the original hardware.

Amp

1 Channel Select 1-4

(via up/down & left/right arrows or Channel Select switches)

The E646 VS amp has four channels. To switch between the upper row of channels (1&2) and the lower row (3&4) you may use the arrows just like with the hardware amp. Alternatively you can use the CHANNEL SELECT LEDs and access each channel directly.

2 Gains 1-4 (adjustable per channel)

Dial in as much crunch and distortion as you like with the gain knobs. Each of the channels has its own dedicated Gain control. Channel 1 is the 'CLEAN' channel, Channel 2 is the 'CRUNCH' channel. Channels 3 & 4 are both 'LEAD' channels.

3 Tone Stack (Bass, Middle, Treble, adjustable per channel)

Just like any guitar amp the Engl amps have controls to make the guitar tones sound more mellow or harsher, add or cut low end, and boost or cut mids. There are definitely no rules when it comes to adjusting the Tone Stack controls. If it sounds right it probably IS right... You may browse through our presets and listen to a wide range of different



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settings, many of which are customized for commonly used guitars like Teles, Strats or Paulas...

1 Middle Voiced (channels 3 & 4 only)

The channels 3 & 4 offer two different mid controls. You may switch between the two sound options and use them for riffs or solo sounds to your liking.

2 Treble x2 (channels 1 & 2 only)

The channels 1 & 2 offer a dedicated TREBLE control for each channel. This way you can easily adjust the sound according to the guitar and / or pickup you use for clean or crunchy sounds.

3 Master A & B

The original hardware E646 amp has two MASTER channels so you can play with different overall volume. We have modeled both channels so you can automate rhythm and lead volumes, for example. Switch between both channels by clicking the little switch between the MASTER A & B knobs alternating.

4 Presence

With the PRESENCE control you add or cut ultra-high frequencies. Make your sound harsher or duller to your liking. The PRESENCE control affects all four channels of the amp. You may use the A/B/C/D setting switches in the toolbar to recall different settings on the fly.

5 Depth Punch

Add some serious low-end to your sound. Some of the Recording Chains contain less bass and may be enhanced in the low end by cranking up the DEPTH PUNCH more than with other Recording Chains. The DEPTH PUNCH control affects all four channels of the E646 because it sits in the power amp. You may use the A/B/C/D setting switches in the toolbar to recall different settings on the fly.

6 Standby and Power

You may bypass all processing of the plug-in with these two switches. Contrary to the real amp in the plug-in these two switches are linked. No need to warm up tubes in the plug-in or protect speaker cabinets. If you only want to bypass the Amp section of the plug-in (to record your own hardware tube preamp, for example) please use the FX Rack / Zoom view. You will find the needed controls in the Power Soak section. Details below.



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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. 15dB 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.

Amp Filters

5 Tight Filter

Discrete 3 steps: "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.



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1 Tight Frequency

With the TIGHT filter you can cut LOW frequencies of either the DI guitar signal (PRE) or the processed amp output (POST).

2 Smooth Filter

Discrete 3 steps: "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.

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).

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!

4 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.



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1 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.

2 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.

3 x2*

Use this button to redouble the current Delay time.

4 /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 1000 ms is not exceeded.

* Note: Custom control, not automatable

5 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.

6 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.

7 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%.



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1 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 REC 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.

Using this impressive setup Dirk has produced a huge variety of customized 'Recording Chains' for the Engl E646 Victor Smolski amplifier, which you can apply to your Plugin amp settings. Imagine a selection of 64 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.



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The external gear we used:

- 1.Chain: The legendary German Telefunken V76 Preamp connected to the Massenburg GML 8200 EQ
- 2.Chain: AMEK 9098 channel strip
- 3.Chain: SSL 4000 E Series with Black EQ

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 REC CHAINS by either using the pull-down menu of the REC CHAIN text box (see above) or just click through the settings using the '+' and '-' symbols.

2 Auto & Bar selection

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

For this reason the E646 Victor Smolski offers you AUTO mode: Just select a pattern (1 Bar, 2 Bars or 4 Bars) and the plug-in will activate the available REC CHAINS automation, following the actual tempo setting of your DAW. You can now play uninterrupted and simply listen to the sound of the various REC CHAINS as the plug-in 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



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desired REC CHAIN. Afterwards just fine-tweak the TONE Section and GAIN and there you are.

1 Input Gain

If you want to drive the input of the Engl 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 plug-ins before entering the Engl amp plug-in you may want to dim the input signal.

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

2 Power Soak

Controls the output volume.

In the real 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 Engl 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.



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1 Bypass Pre Amp

BYPASS the pre amp section.

With the Bypass Pre switch you can switch off the Engl preamp completely, which may be wanted if you record your own hardware (tube or solid state) guitar pre-amp with the E646 Victor Smolski. In this case you may still use the internal Power Amp and speaker / REC 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).

2 Bypass Power Amp

If you want to use only the distortion of the Engl preamp you may switch the power amp simulation off. This may sound cool if you use the E646 Victor Smolski 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.



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Top Toolbar

1 Undo / Redo

You can undo and redo changes you made to the controls of the E646 Victor Smolski 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 E646 Victor Smolski 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 setting 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.



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Factory Presets

We have made a lot of presets for the E646 Victor Smolski 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 E646 Victor Smolski amp plugin.

Creating your own Sounds & Presets

When you start to create your own sounds the most important elements to adjust are the DRIVE, REC 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 REC 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.
- Have fun!

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

Combine the E646 Victor Smolski 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.



Plug in, Rock out! - www.brainworx-music.de