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UNIVERSAL AUDIO

FUCHS AUDIO TECHNOLOGY

PLUGIN MANUAL | Fuchs Train II

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Fuchs Train II

INTRODUCTION:

The Train II embodies the superb reputation behind the Fuchs Amplification line, and their ability to build amps that totally nail the sound of guitar legends, while modernizing and expanding on the tonal possibilities that put their instruments in a class of their own. Originally inspired by Ken Fischer's famed Trainwreck, the Train II delivers the thick grit and lush Rock overdrive that harken to legends like Mark Knopfler – and multi Grammy-winning artists like Brad Paisely – but with an expanded control set that delivers a comfortably broad range of sounds without the need to build on your setup with pedals or other additional amps further down the chain. Cascading gain stages create simple to complex layers of harmonics before hitting a master volume – perfect for dialing in the girth before taming output and keeping things at a sane volume level. Accent and Thrust controls add shimmer to the high end or body to the low end respectively, further refining and characterizing your guitar's voice. This amp offers a remarkable amount of tonal range with each setting you dial in, perfect for on-the-fly tone and gain adjustments using nothing more than the controls on your guitar.

The Train II plug-in from Brainworx captures all that bold and beautiful tone from this rock and roll masterpiece from Fuchs. The plug-in also adds an onboard FX rack with several useful features, like a Noise Gate that includes filtering for taming pickup hum or body rumble, Power Soak for adding more gain without losing headroom, and a vintage delay unit with a built-in "tap tempo" mode. The Train II plug-in also includes 100 impulse response Recording Chains that were perfectly captured from several boutique cabinets and recorded through Brainworx's vintage Neve console via a dizzying array of high end and vintage microphones and coveted outboard gear to deliver "record ready" tones instantly. In a marriage between Brainworx's hardware modeling know-how and Universal Audio's Unison preamp impedance modeling technology, the Train II plug-in delivers all the tone and feel of the original amp while allowing the performer to play at near-zero latency. It's so precise, you'll swear you were playing through a physical amp.

Unison Technology

The Fuchs Train II plug-in was developed with the Apollo series interfaces in mind and made compatible with Unison preamp technology. Of course the Fuchs Train II will work with any UAD-2 device, but to experience ultra-low 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 Fuchs Train II 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.

The Main Applications for this Plug-in:

1. Recording DI guitars, then editing and processing them in the DAW completely, using the internal amp simulation, the recording chains and the FX Rack.

2. Recording hardware preamps through the power amp simulation and Recording Chains.

3. Practicing at home with minimal latency (in Apollo's Console, for example), via your studio speakers, a home stereo system, headphones or a real guitar amp and cabinet.

4. Playing live via a real power amp and speaker setup.

5. Playing LIVE, plugged straight into a live console and / or an in-ear system.

6. Re-Amp less than perfect DI guitar tracks, previously recorded with other amp simulations.

The Amp Section | Fuchs Train II

TONE STACK:

POWER: On/off switch. With the Power switch you can activate and deactivate the processing to compare your original mix to the effects of the Train II.

GAIN 1: Continuous knob, 1 to 10. This control adjusts the first gain stage powered by JFET transistor.

GAIN 2: Continuous knob, 1 to 10. This control adjusts the second gain stage.

MASTER: Continuous knob, 1 to 10. This control adjusts the overall volume of the amp.

HIGH/MID/LOW: Continuous knobs, 1 to 10. These controls adjust the gain on fixed ranges within the frequency spectrum.

ACCENT: Continuous knob, 1 to 10. The accent control works within the power amp section, reducing negative feedback at higher frequencies. It adds an edge to the overall amplifier tone. It's excellent for cutting through in a band or a recording mix. It can also allow greater ability to selectively make notes feedback and "sing."

THRUST: Continuous knob, 1 to 10. The thrust control works within the power amp section, reducing negative feedback at lower frequencies.

NOISE GATE:

'CLOSED' LED: 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).

NOISE GATE ON/OFF: On/off switch. Enable or disable the Noise Gate completely. Switch up ('on') means the Noise Gate is activated.

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.

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:

(switchable pre/post)

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.

TIGHT FREQUENCY: Continuous knob, 30Hz to 3kHz.
Set the frequency below which low frequencies will be cut.

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.

SMOOTH FREQUENCY: Continuous knob, 3kHz to 35kHz.
Set the frequency above which high frequencies will be cut.

Delay

DELAY: On/off switch. Use this parameter to switch the delay unit on and off.

DELAY TIME: Continuous knob, 15ms to 1000ms. Use this parameter to adjust the delay time.

DELAY FEEDBACK: Continuous knob, 0% to 100%. Use this parameter to set the feedback of the delay.

DELAY MIX: Continuous knob, 0% to 100%. Use this parameter to set the level balance between the dry signal and the delay.

DELAY LOFI: Continuous knob, 0% to 100%. Use this parameter to add creative destruction to your delay signal.

X2: Discrete button. Use this parameter to double the current Delay time
Note: Custom control, not automatable

/2: Discrete button. Use this parameter to half the current Delay time.
Note: Custom control, not automatable

TAP: Discrete button. 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.
Note: Custom control, not automatable

TEMPO BAR SUBDIVISION: Bar subdivision at showed bpm
Note: Custom control, not automatable

FX RACK Rec Chain | Fuchs Train II

REC CHAINS:

Simply select a speaker and a complete studio setup by browsing through the REC CHAINS pull-down menu! For more information on each of the cabinet types in the REC CHAINS, please see the “Cabinets” section on page 9.

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 finest outboard EQs and mic pre-amps available.

Using this impressive setup Dirk has produced a huge variety of customized ‘Recording Chains’ for the Fuchs amplifier, which you can apply to your plug-in amp settings. Imagine a selection of 26 perfectly mic’d and EQ’d cabinets that you can select and use instantly with a single mouse click!

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 plug-in offers, you may use the very last setting (labeled CABINET BYPASS) and use your own mic’d cabinet. This setting will give you the sound of a tube amp wired straight into a console, which also may be a nice effects sound.

+/- 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.

AUTO & BAR selection:

If you are trying to find the best sounding REC CHAIN for your actual song it can be tiring having to play a few chords, then grabbing the mouse to select the next REC CHAIN, playing a few notes again, grabbing the mouse again, etc.

For this reason the Fuchs Train II plug-in offers you the 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 desired REC CHAIN. Afterwards, just fine-tweak the TONE STACK and GAIN and there you are.

IN/OUT CONTROLS

INPUT GAIN: Continuous knob, -20dB to +20dB. If you want to drive the input of the Fuchs 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 Fuchs amp plug-in you may want to dim the input signal.

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

PREAMP BYPASS: On/off switch. Bypass the preamp section

POWER AMP BYPASS: On/off switch. Bypass the power amp section

POWER SOAK: Continuous knob, -40dB to 0dB. In the real world, power soaks are being used to reduce the volume of a power amp. This way you can crank up a (tube) 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 signal. A fully cranked up tube 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 Fuchs power amp, so you may experiment with different settings of the Master Volume of the amp and the internal POWER SOAK. We recommend a setting of roughly -10dB for most scenarios.

Fuchs Train II

CABINETS

FUCHS: The Vintage cabinet is perhaps Buzz's finest and most well-known design. It features a diagonal staggered mounting of two 12" drivers, with a unique mounting arrangement that places one driver in front of the baffle and one behind the baffle. This provides a much larger perceived sound from an otherwise extremely small cabinet, a very manageable weight, and a full sound that is dynamic, clean, quick, and punchy like a 412. It's an excellent highly portable cabinet for blues, jazz, and records particularly well. The cabinets are shipped for horizontal use, but may be used in either direction or ordered for vertical use.

ORANGE: 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.

FRIEDMAN: The Friedman Dirty Shirley 1×12 Cabinet is a 1×12", open-back extension cabinet. It utilizes tongue and groove Baltic Birch construction to deliver the bass, mid response and great sound you would expect from a Friedman cab. At the heart of the cab is a Celestion G12M-65 Creamback 16 Ohm speaker. The G12M Greenback is the definitive vintage Celestion ceramic magnet guitar speaker. When the G12M was developed in the mid-sixties, players like Hendrix, Clapton, Beck and Page, who typified the louder and more aggressive blues rock-playing styles that came to characterize that era, quickly adopted it. The G12M-65 Creamback used in the Dirty Shirley cab produces the familiar woody G12M tone, but handles greater power. This makes it ideally suited for yesterday and today's amps, when a vintage and modern tone is desired. The increased power handling brings with it low end grunt complementing the warm and vocal mid range, crunchy upper-mids and sweet, refined highs. As with all Friedman cabinets, over-sized 12-gauge speaker wire is soldered between the speaker and terminal, assuring you capture every ounce of valuable tone. The Dirty Shirley 1x12EXT is handcrafted with pride in the USA and designed to withstand the rigors of the road.

ENGLISH: 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.'

Plug-in SETTINGS TOOLBAR:

BYPASS (Power button): Bypasses processing done by the Fuchs Train II

UNDO/REDO (arrows): You can undo and redo changes you made to the controls of the Fuchs plug-in 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.

SETTINGS A / B / C / D: The Fuchs amp plug-in offers four internal settings (A/B/C/D) that will be stored with every preset. So, one preset can contain up to 4 amp and effects settings. The settings can be automated (!) in most DAW hosts. This way it´s possible to switch from a clean picked sound to a grungy slapped sound, for example.

COPY/ PASTE / RESET A : 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 with less Tube Gain, 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.
Reduce the Tube Gain. Done.

Now you can switch between A & B to hear the different flavors of tone you have created.

FX RACK: Toggle between FX Rack and Standard view.

ABOUT: Information about the development of the plug-in.

FACTORY PRESETS:

These presets are only intended to give you an easy start and to demo some of the tones you can get out of the Fuchs amp plug-in.

CREATING YOUR OWN SOUNDS & PRESETS: When you start to create your own sounds the most important elements to adjust are the DRIVE, TONE SECTION and the REC CHAINS.

Dial in as much GAIN or Distortion as you like.
Play through as many REC CHAINS as you like and pick the one that sounds closest to what you are looking for without altering the TONE SECTION.
NOW start tweaking the TONE SECTION to fine-tune your amp settings.

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