

TubeBaby

- a vst tube amp simulation -



Version 1.0.1

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Introduction

TubeBaby is my attempt at creating a digital emulation of a tube guitar amplifier. As such it features the typical controls found on a real amp like gain, presence, treble, mid, bass etc.

TubeBaby is available as a freeware vst¹ plugin on windows platforms.

My main motivation to do yet another amp sim, was to have an alternative to the Simulanalog guitar suite for myself and, being a professional developer and musician, I always had the idea of doing some music related development. So, since electric guitar is my main instrument the choice was rather natural ;-)

The plugin was developed by me using Visual C++ and the Steinberg vst sdk. All gui design was done by my beloved wife, Mara.

Special thanks go out to all the fantastic dsp resources on the net, mainly music-dsp.org and its mailing list, dspguru.org, the vst mailing list and kvr-vst's development forum. These resources were invaluable during the development of the plugin and helped me a lot.

For feedback and bug reporting please mail to niko@ndzeit.org.

Finally, I hope you're having as much fun using TubeBaby as I had creating it,

Cheers,

Niko

DISCLAIMER: TubeBaby is freeware. You are hereby given the right to spread it all over the world as long as you keep the original software package intact i.e. include the readme, the original dll and this pdf document-. I tried to take care to code this plug properly, nonetheless I hereby absolutely deny all responsibility for anything this thing might do to your computer, your guitar, your speakers, your wife, your dog or anything else...

¹ Copyright notice: "VST is a trademark of Steinberg Media Technologies GmbH"

USAGE

Choosing an amp and a cabinet

Clicking on the logo in the upper left corner of the plugin opens up TubeBaby's configuration menu.

You can choose between 3 different amplifier simulations:

- British Amp – loosely based on famous british tube amplifiers
- US Amp - loosely based on famous US tube amplifiers
- Custom Amp – Kind of a crossover between the other two models

There are 6 cabinet options available:

- British 4x12 – a model of a 4x12 equipped with classic british speakers
- US 4x12 – a model of a 4x12 equipped with classic US speakers
- US alt. 4X12 – an alternative model of a 4x12 equipped with classic US speakers
- Small Combo – a model of a small combo with an 1x10 speaker
- 1x12 Combo - a model of a combo with an 1x12 speaker
- No Cabinet – bypasses the cabinet emulation

Setting the Trebliness

This settings determines how much higher frequency content passes through the power amp stage of the amp sim. Available options are default, darker and brighter.

HiGain/LowGain switch

Like many real amplifiers TubeBaby features a toggle switch that let's you activate/deactivate the high gain stage of the preamp. When deactivated the amount of distortion available via the gain knob is reduced making this setting well suited for clean to slightly crunchy guitar sounds. When activated the gain knob allows for variations from crunchy to modern high gain sounds.

Note: When turning up the gain the overall volume increases, so you should usually turn down the master volume accordingly.

Standard amplifier controls

These are adjustable via the big knobs. It shouldn't be hard to figure out how they work for anyone who has ever used a real guitar amp, so here is only a short description:

- Gain – Sets the amount of distortion produced by the preamp stage
- Bass, Mid, Treble – Control the Tonestack of the amp. These controls are coupled and react different depending on the chosen amp style
- Presence – Controls the amount of negative feedback emitted by the power stage
- Master – Determines the overall output volume of the amp.

Presets

TubeBaby comes with a couple of factory presets and some user definable presets. To be able to save your own presets you'll need a host that supports saving and loading of .fxb files, which most hosts should be able to do.

The factory presets are mainly intended as a starting point as there are many variables in a guitar to computer setup that can influence the sound. So depending on your individual setup you will have to play around with the controls to find good tones.

Version history

v. 1.0.1

- fixed a bug that caused the plug to require SSE support
- fixed a denormalization issue with gain or master turned to zero

v. 1.0

- added an option to bypass the cabinet emulation
- revamped the small combo cab emulation
- fixed automation not working (seems nobody ever used it)
- Redesigned Tonestack with coupled controls
- revamped the power amp stage
- added another amp type
- added an option called Trebliness, that determines how much high end passes through the power amp stage
- optimized code to reduce cpu usage

v. 0.9

- redesigned oversampling filters
- revamped the cabinet emulation
- added four new cab types
- redesigned the tone stack
- redesigned the power amp stage
- added another amp type
- added an about box
- lots of internal code changes

v.0.21

- fixed a bug that sometimes caused strange sounds when activating the plugin

v. 0.2

- fixed denormalization issues
- added support for 88.2k and 96k sample rates
- switched compilers
- added a high gain switch, which when deactivated allows for more clean headroom
- lots of internal code changes

v. 0.12

- fixed a buffer initialization bug that caused a loud hiss when arming a track or activating input echo (thanks to PeteD for the bug report)

v 0.1 initial release