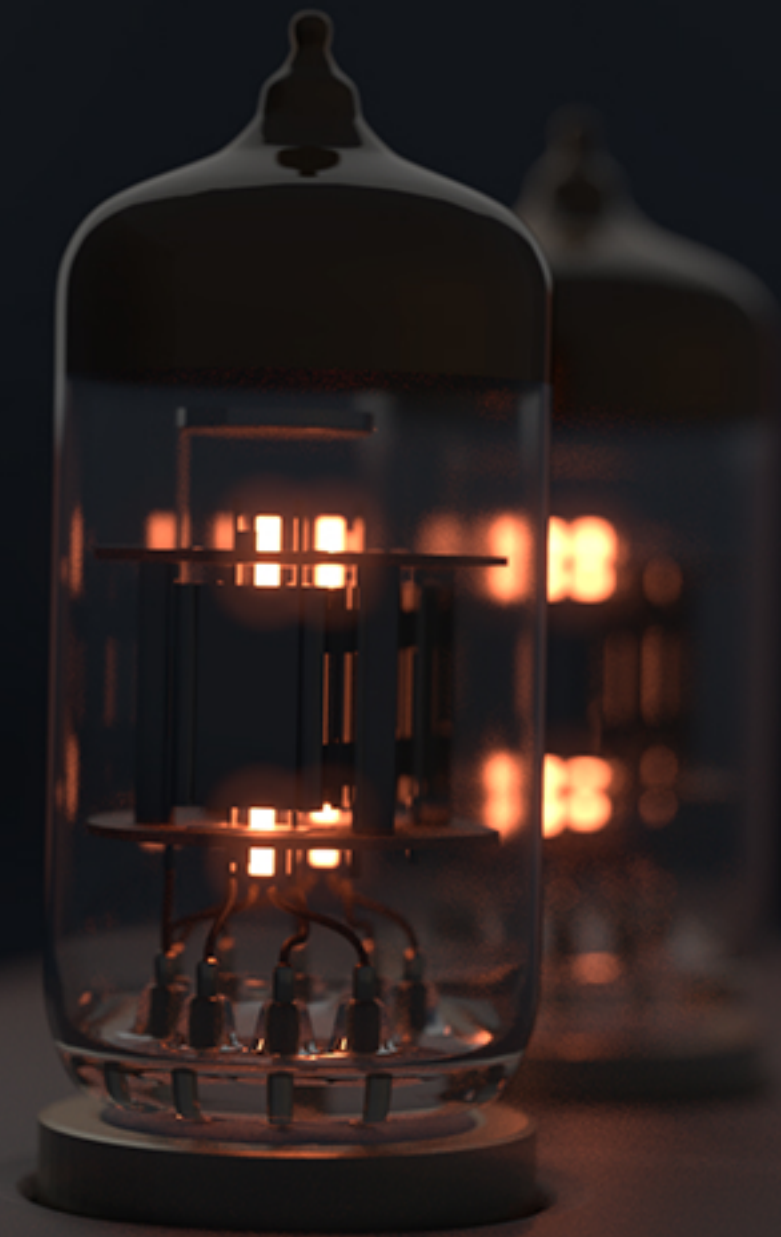


Mercuriall

HARLEQUIN

preamp **1.3**



Audio Plug-In
User Manual

Introduction

Harlequin Preamp is a digital emulation of a preamplifier stage of amp that started the Cornford story. Launched in 1999 as the ultimate in recording studio tone, this versatile amp still going strong a decade on.

Every single component on the signal path of the real analog circuit has been taken into account and modeled in the best possible way to match the original sound, keeping an eye to CPU performances and real-time playability at the same time. Harlequin Preamp is meant to be used as a guitar preamplifier for live playing and jamming, tracking or mixing inside hosts capable of VST or AU Plug-Ins support.

Minimum System requirements

Windows:

Windows XP/Vista/7/8 (32/64 bit)

Intel or AMD processor with SSE3 instructions support

Mac:

OSX 10.7

Intel processor with SSE3 instructions support

Installation

To install the Harlequin Preamp Plug-In, just follow the instructions below, according to the platform and plug-in format you want to use.

Windows VST:

Copy the folder Harlequin Preamp.dll.dat into your VST Plug-Ins folder. (for example C:\Program Files\Steinberg\VSTPlugins)

Copy the file Harlequin Preamp.dll into your VST Plug-Ins folder. (for example C:\Program Files\Steinberg\VSTPlugins)

Mac OSX VST:

Copy the bundle Harlequin Preamp.vst into the path: /Library/Audio/Plug-Ins/VST/

Mac OSX AU:

Copy the bundle Harlequin Preamp.component into the path: /Library/Audio/Plug-Ins/Components/

For Windows VST format, I provide separate x86 (32 bit) and x64 (64 bit) binaries, so make sure to choose the right one according to your operating system and plug-in host specifications. Keep in mind that x64 binaries will not run on 32 bit environments

After that, you should (re)start your favourite VST/AU host, making sure it re-scans your Plug-Ins folder(s) to recognize the Harlequin Preamp as a new “Effect” Plug-In (please note that some hosts may not re-scan the plug-in folder automatically at every start-up, so you may need to do that manually. Refer to your host’s manual for instructions).

If everything is right, you should now see the Harlequin Preamp entry into the “Effect” Plug-Ins list of your host.

Main Features

- Dynamic ECC83 / 12AX7 triode analog modeling
- Two different Dynamic ECC83 / 12AX7 triode models
- Tonestack full coupled with the gain stage
- Mono / Stereo processing support
- Selectable oversampling rate (up to 16x)
- Global input / output level controls
- Double precision (64 bit) floating point mathematical model
- Fully automatable controls

Graphic User Interface



1 Show / Hide settings

Dual triode tube selector. 12AX7 EH gets more clean tone on low input level, best for clean/overdrive sound. 12AX7 RSD gets more bright sound, best for overdrive/distortion

3 Mono / Stereo switch.
lets the user select the processing mode of the plug-in.

4 Input impedance selector. Treat Channel High as the normal input. Channel Low has lower impedance of -6db sensitivity. This is the input to use should you want less gain.

5 Input level. Used to adjust the amount of guitar signal going through the virtual circuit.

6 Gain. Simultaneously controls the first and second gain stages

7 Treble control. Adjusts the high frequency response of the pre-amp

8 Bass control. Adjusts the low frequency response of pre-amp.

9 Voice switch alters the frequency range over which the tone control operates. Like in real amplifiers, every control (treble, bass, voice) influences the tonal response of the others involved on the circuit

10 Output level. No need to explain much about these control

11 Oversampling lets you choose the internal processing sample rate of the plug-in. This means that if your host is set up to process at 44100Hz sample rate, by selecting 4x oversampling, for example, plug-in will process your signal at $44100 \times 4 = 176400$ samples per second. Oversampling is needed to avoid digital artifacts (aliasing) and improve the accuracy. Obviously, the higher the oversampling, the **higher the CPU usage**.

Tips for guitarists

Make always sure to have the highest input signal before the AD conversion, avoiding clipping. Once your guitar signal is converted to digital, it will be represented as a series of numbers that you can see as voltage values. These voltages can have a maximum and minimum value of 1.0 and -1.0 respectively. Supposing your input signal is peaking at its higher possible value right before the clipping threshold of the converter, it will be represented as 1.0 inside your host and the Harlequin Preamp will react to it like if you're sending a 1.0V signal to its input stage.

Because if your guitar pickup has a maximum output voltage higher than 1V (or 2V peak-to-peak), like many modern active pickups have, you'll need to adjust the input signal that's being sent to Harlequin Preamp. That's where the **Input Level** control comes into play. You need to tweak it to compensate the voltage scaling/normalization made by your AD converter.

if you are using a humbucker pickups (maximum output of 1.5V), you'll need to set the **Input Level** slider at the center position. By doing this, your input will be multiplied by 1.5. If you are using a single coil, instead, and its maximum output value is, let's say, 0.5V, you'll need to set the Input slider to the one-sixth of full slider range. By doing this, your input will be multiplied by 0.5. Input level slider allows you to change the multiplier linearly from 0 to 3.

Harlequin Preamp is a preamplifier simulator, so it needs a cabinet simulator after it, to sound like a real mic'd tube amplifier. There are numerous free and commercial cabinet simulator plug-ins available, so make sure to place one (and only one!) of them right after Harlequin Preamp.

Contacts

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Changes from initial release

- Better stability and quality of simulation. Proper simulation with input signal more than 6V peak-to-peak.
- Increase processing speed up to x2 times
- More realistic 12ax7 triode model
- More realistic Bass level behavior. Used Log scale potentiometer
- Better quality of modeling of tone stack section
- More precise and quick algorithm for oversampling
- Increase speed of triode model switching
- Less memory consumption
- Faster loading
- Lower disk space consumption

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