CLAP TRAP

A L Y J A M E S L A B

STEREO DIGITAL CLAPTRAP EXTENDED VST AU

USER MANUAL

WINDOWS & MAC

64bit

CLAPTRAP

STEREO DIGITAL CLAPTRAP EXTENDED

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USER MANUAL 1.0

BY

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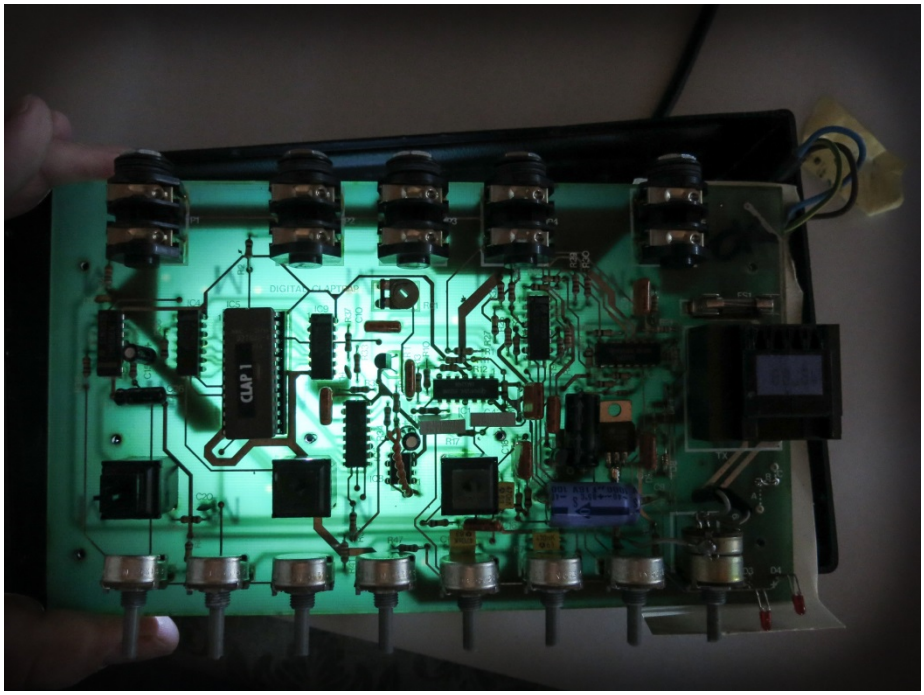
INTRODUCTION

My name is Aly James;

Funky musician, composer and creator of strange musical DIY devices and software.

This is a one on one recreation of the mighty Simmons Digital ClaPTrap from the 80s in plug-in form.
Thanks to reverse engineering my hardware unit, the digital source is bit accurate, the random technique is perfectly replicated and the virtual analog parts are modeled as closed as possible, in addition I did some modifications like true stereo capabilities, extended ranges, fine tuning and CV/MIDI response.

You probably already heard the Claptrap in thousand songs **and it will be now your secret CLAP weapon, feel free to experiment with it as it is not limited to clap sounds!**
For example try to trigger it with rapid notes like a very fast arpeggiator, VCA to EXP mode and shortest decay...now modulate the PITCH! ☺



This emulation is based on reverse engineering it uses a C++ custom core with modeled Analog circuitry and bit for bit digital emulation.

Mainly,

CLAPTRAP can be triggered via the same MIDI notes assigned to VSDSX 2.

Each trigger will engage some envelope generators that will act on different part of the circuit. The output is amplified by an OPAMP and will be filtered in some way differently depending on the volume, VCA and output stage settings and MIDI velocity;
the analog behavior emulation will reproduce the soft and hard clipping when pushed hard.

Basic MIDI implementation:

MIDI IN:

CLAPTRAP can receive any MIDI CH as main source for triggers.
It can be triggered with a standard MIDI Keyboard/Pads or even a MIDI Drum Kit.

The default mapping follows almost the same mapping as GM MIDI Standard.
Clap – MIDI note 37, 39
If you made and saved a custom mapping for the CLaPTrap voice inside VSDSX 2, the same mapping will be used inside CLAPTRAP (a RESET from VSDSX will also revert CLAPTRAP to its default mapping.

INSTALLATION

COMPATIBILITY

Windows 7 to 10. 64bit Host (DAW) VST2 VST3
Mac OSX Snow leopard to Mojave 64bit host AudioUnits (AU)

THE CLAPTRAP PLUGIN CAN ONLY BE USED ON A MACHINE WITH AN ALREADY REGISTERED VERSION OF VSDSX 2.0

INSTALL WINDOWS

1. Decompress the downloaded zip archive file
2. Run the CLAPTRAP Installer
3. If you haven't registered VSDSX 2 yet, do it before launching CLAPTRAP
4. Load it in your DAW (rescan plugins if needed)

INSTALL MAC

1. Decompress the downloaded archive file
2. Copy **CLAPTRAP.component** (AU) into the official default AudioUnits folder /Library/Audio/Plug-Ins/Components/ (AU)
3. Copy **CLAPTRAP presets folder** into Library/Audio/Presets/ or User/Library/Audio/Presets/ Note that the /Library folder is sometimes a hidden folder (search for how to make it visible)
4. Load the plugin in your DAW (rescan plugins if needed, you may have to reboot once to make it validated)

MAIN INTERFACE & CONTROLS

Overview

CLAPTRAP GUI INTERFACE is pretty straight forward; the main interface let you select basic controls: The **SENSITIVITY** controls let you fine tune how the trigger velocity will affect the sound. The **pitch sens** will act on the clap pitch from 0 to one octave, **the volume sens control** can be set to off to ignore MIDI velocity

The Pitch **NOISE** knob will set the pitched Noise filter center point.

The **Pitch** CLAP will set the base clock frequency for EPROM reading, basically setting the sample rate of the digital part; this is what gives this particular and colored sound.

The **DECAY** knobs will set the decay time of the sound envelopes for the CLAP and NOISE independently.
The **VCA response switch** can change the CV type from the original exp/linear type (default) to an exponential CV type.

The **BALANCE** mixer knob will mix the noise generator with the digital source accordingly.

The **RES and HPF** knobs stands for resonance and high pass filter, these are both additional controls you can have on the noise filter implementation.

The **OUTPUT STAGE** setting can be set to CLEAN for practically no loss of audio fidelity, switching to ANALOG will get a smoother sound closer to the original hardware.

The **HUMANIZER** switch is one of the main feature of the CLAPTRAP, once engaged you will never get the same clap on every hit, this is done by looping the EPROM counter constantly and will be most effective at moderate CLAP pitch, if the sample rate(pitch) of the CLAP is too high you won't hear the effect much.

The **STEREO** switch will… well engage stereo, in short this will activate a whole second claptrap circuit running in parallel, in this mode the noise will always be "stereo" because of the nature of the noise itself (random) but the **WIDTH knob** will also act on the noise pitch to offset it even more. The **WIDTH** knob will also offset the EPROM clock of the second Claptrap generator by dividing the current clock by a small amount. This produces the effect of a wider phase separation and wider stereo effect. *Note that once WIDTH as passed its minimum, the EPROMs will always be offset if the **HUMANIZER** is on and a stereo effect will still be perceived, due to how the system is working you need to switch the humanizer to off so the next hit will reset both counters at the same time.*

Right click on a knob, button or slider will open a midi learn assign menu. Ctrl click + move allow fine tuning.

The **analog soft clipping** also happens on CLEAN mode and will affect the sound depending on the voice volume (a red indicator will tell you how much). The analog clipping is pretty nice and can bring some punch and presence to the sound, it depends what you are after.

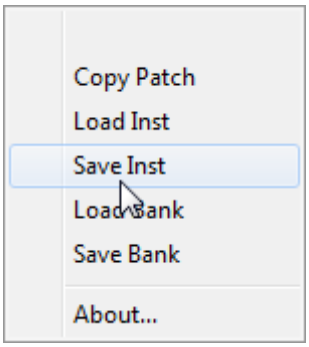
The volume can get pretty high so be sure to reduce your DAW channel volume to keep plenty of headroom☺.

PRESETS IMPORT / EXPORT

VST3, FXP & FXB, XML, AU presets

CLAPTRAP can load and import its own format presets & banks.
All MIDI LEARNED & ASSIGNED parameters will also be saved with the patch.

Simply name the preset and right click the **PRESETS MENU** to save either 1 preset or the whole bank, user presets will be saved under the “user” category.



MIDI AUTOMATION

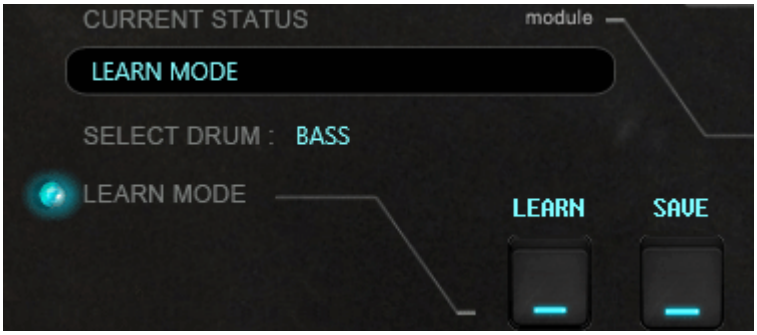
MIDI LEARN

Almost all CLAPTRAP parameters can be **automated via midi learning** or **DAW automation** allowing great control over the sound.

Simply right click on a button, knob or slider to assign external MIDI Control or use DAW automation.

MIDI Map

If you want to change the CLAPTRAP default notes mapping you can do so inside VSDSX.
Clicking on MIDI MAP button will open the MIDI Map panel.
First **SELECT DRUM** must be set to the CLAP you want to customize.
Then engage the **LEARN MODE** by clicking on the **LEARN** button (when engaged a blue LED will be lit), now each new incoming MIDI note will be assigned to that drum (2 notes are available per drum, excepted the hihat which got 2 for closed and 1 for open)



Once you are done, click **LEARN** button again to disengage the LEARN MODE. The custom map is now in memory. If you want to save your map permanently so it will be used each time you load the plugin click **SAVE**. To get back at the default mapping any time click **RESET**.

The RAW memory can be viewed in the RAW HEX DATA memory box (those are Hexadecimal numbers)

LINKS

Aly James centric links

Official Website www.alyjameslab.com

Dev Blog www.alyjameslab.blogspot.com

Facebook News www.facebook.com/alyjamesound

Instagram https://www.instagram.com/alyjameslab/

Youtube Channel www.youtube.com/alijamesproduction

Soundcloud demos http://www.soundcloud/alyjameslab

Twitter @alyjamestwitt

CONTACT alyjames.info@gmail.com

External links

Simmons Museum Website http://www.simmonsmuseum.com/

HOPE YOU HAVE FUN WITH THE CLAPTRAP!

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