Klanghelm TENS - Manual

Table of Contents
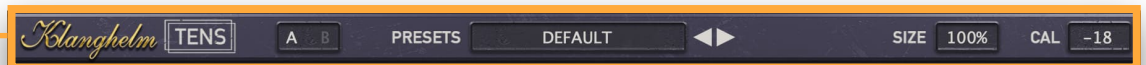
Installation

Windows:

Make sure you meet the system requirements:
• Windows 8 or higher
• 64 Bit DAW
• The AAX version requires ProTools® 11 or higher

Plugins (64-bit VST, VST3, AAX)
• download and unzip the installer from the user area
• run TENS-installer.exe and follow the instructions

Troubleshooting:
If you get an error message before or during the installation process, it is very likely due to a false positive from your active virus scanner. In this case either add TENS-installer.exe to your whitelist or temporarily disable the scanning during the install process.

If you're using the plugin in VST format and your DAW can't find the plugin, the installer likely placed the VST plugins into a folder, that your DAW doesn't scan for plugins. Make sure, that you specify the correct VST folder during installation.

Apple macOS:

Make sure you meet the system requirements:
• macOS 10.11 or higher
• The AAX version requires ProTools® 11 or higher

Plugins (64-bit AU, VST, VST3, AAX)
• download and unzip the installer from the user area
• open the TENS.dmg, run the included TENS-installer.pkg and follow the instructions.

Troubleshooting:
• in case you're getting a message, that the installer can't be executed, because it is "not downloaded from the App store", do the following:
• Go to System Preferences -> Security & Privacy
• In the General Tab of the Security & Privacy window click on the lock icon in the bottom left to be able to make changes.
• select „App Store and identified developers" in the section "Allow applications downloaded from:"
• Now install TENS again.

Top Bar & Preset System

Sets the reference level for the entire signal path incl. the envelope followers in the modulation section. Click to enter a value. If you click at the "CAL" label use can also drag the mouse to change the calibration level. Or position the mouse pointer over the CAL label and use the mouse wheel.

click on the Klanghelm logo to enter the global settings (see page 11)

click to enter the preset menu.

go to previous preset

go to next preset

click to select the GUI size

Klanghelm TENS   A B   **presets**   DEFAULT   ◀▶   **size** 100%   **cal** -18

Click to switch between two plugin states. To copy one state to the other enter the preset menu and select "copy A to B" or "copy B to A" depending on which state is active.

The states are saved with the session.

copies the current plugin state to the system clipboard. You can use "paste from clipboard" in another instance of the plugin to apply these settings to that instance or you can paste that into a text document to share with other users.

click on "paste from clipboard" to apply a copied state to the current plugin instance.

factory preset categories

click to load a preset file from disk

load	>
save	>
copy to clipboard	
paste from clipboard	
copy A–>B	
Presets	
Drums	>
Bass	>
Guitars	>
Vocals	>
Keys	>
Orchestral	>
MixBus	>
Fx	>
USER	>

| from file... |
| reset to default |

| save to file |
| save as default |

resets the plugin to its default state

saves the current state as a preset to your system. Please make sure, that the preset is saved into your UserPresets-folder in order to make it visible in the USER category

saves the current state as the default state, that is loaded whenever you load a new instance

your own presets can be recalled from here.
In case you want to delete (some of) them, they are located here:

macOS: /Users/<username>/Library/Klanghelm/TENS/UserPresets/

Windows: C:\Users\<username>\AppData\Roaming\Klanghelm\TENS\UserPresets\
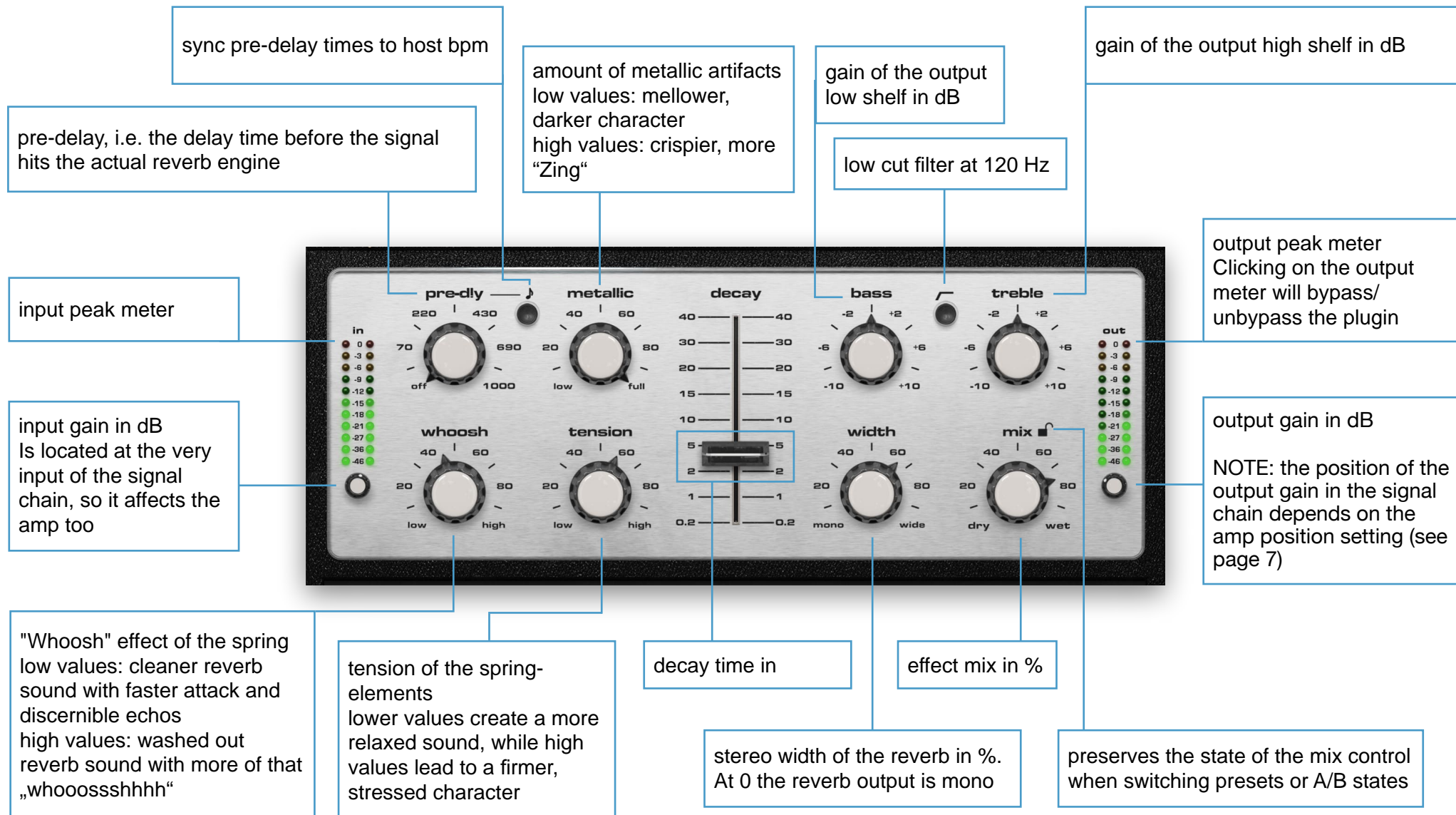
Note: The SIZE parameter is excluded from the presets. However the DEFAULT preset and A/B states include the SIZE parameter.

Main Controls

sync pre-delay times to host bpm

amount of metallic artifacts
low values: mellower,
darker character
high values: crispier, more
"Zing"

gain of the output
low shelf in dB

gain of the output high shelf in dB

pre-delay, i.e. the delay time before the signal
hits the actual reverb engine

low cut filter at 120 Hz

output peak meter
Clicking on the output
meter will bypass/
unbypass the plugin

input peak meter

input gain in dB
Is located at the very
input of the signal
chain, so it affects the
amp too

output gain in dB

NOTE: the position of the
output gain in the signal
chain depends on the
amp position setting (see
page 7)

"Whoosh" effect of the spring
low values: cleaner reverb
sound with faster attack and
discernible echos
high values: washed out
reverb sound with more of that
„whooossshhhh"

tension of the spring-
elements
lower values create a more
relaxed sound, while high
values lead to a firmer,
stressed character

decay time in

effect mix in %

stereo width of the reverb in %.
At 0 the reverb output is mono

preserves the state of the mix control
when switching presets or A/B states

Bottom Panel

routing of the reverb tanks
Each model has two different reverb tanks, each with its very own character. As opposed to the units, they are modeled after, each tank has a stereo output instead of just being mono.
A: only tank A is active
B: only tank B is active
A | B: tank A on the left channel, tank B on the right channel
B | A: tank B on the left channel, tank A on the right channel
A + B: tank A and B in parallel, so left = tank A left + tank B left; right = tank A right + tank B right

sets the input mode to either mono or stereo, keeping the input mode at the mono position drastically reduces CPU load

drive/saturation of the amplifier, the amp of each model has its own sonic character. At the off position the amp is removed from the signal chain, saving CPU power

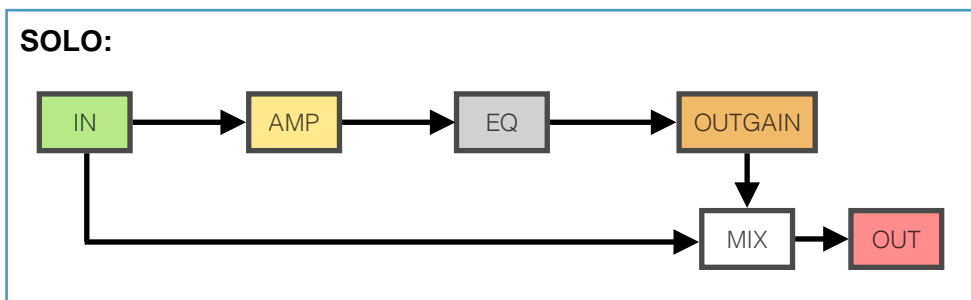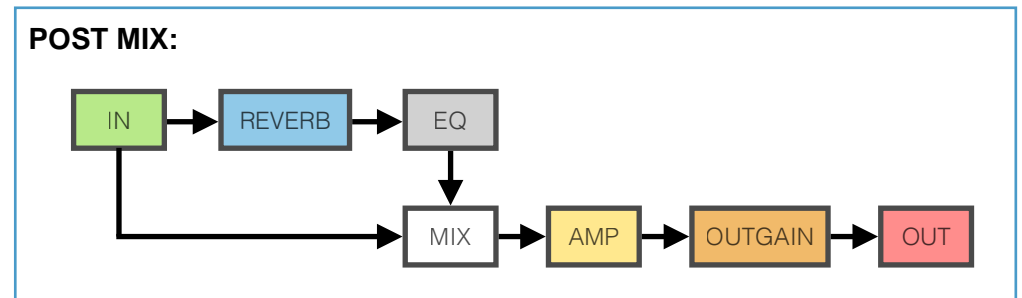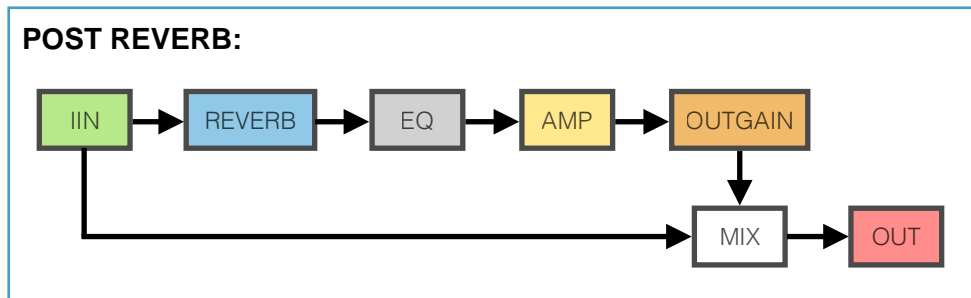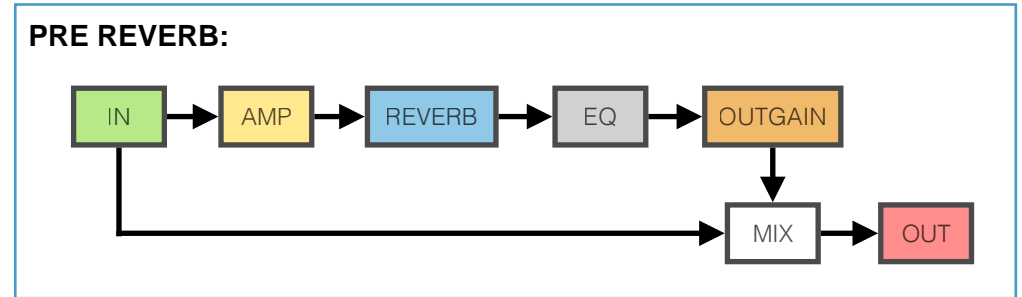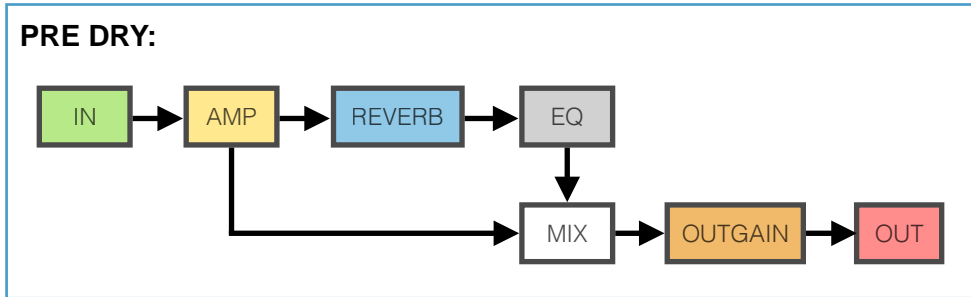timbre of the amplifier, from warm to bright, neutral at noon
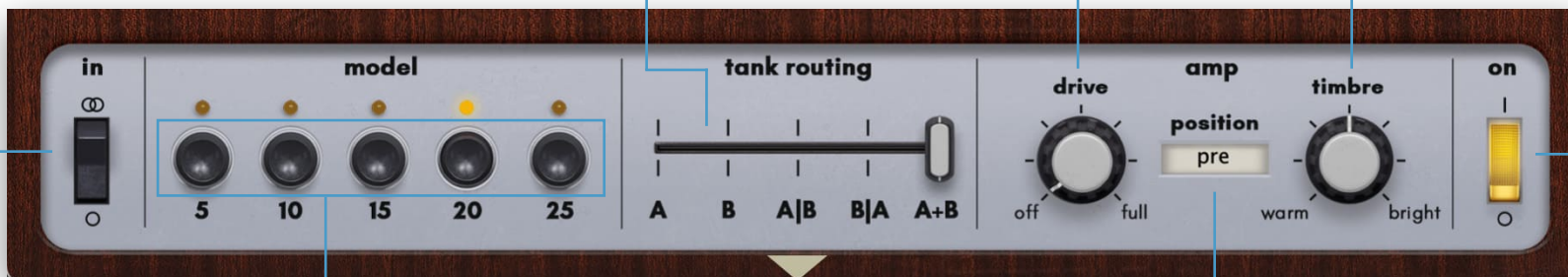
click to select one of the five spring reverb models

show modulation panel

position of the amplifier in the signal chain: see next page

when lit the plugin is active, when unlit the plugin is bypassed

Amp Position Signal Flow

PRE DRY:

IN → AMP → REVERB → EQ → MIX → OUTGAIN → OUT
(AMP also feeds directly to MIX)

PRE REVERB:

IN → AMP → REVERB → EQ → OUTGAIN → MIX → OUT
(IN also feeds directly to MIX)

POST REVERB:

IIN → REVERB → EQ → AMP → OUTGAIN → MIX → OUT
(IIN also feeds directly to MIX)

POST MIX:

IN → REVERB → EQ → MIX → AMP → OUTGAIN → OUT
(IN also feeds directly to MIX)

SOLO:

IN → AMP → EQ → OUTGAIN → MIX → OUT
(IN also feeds directly to MIX)
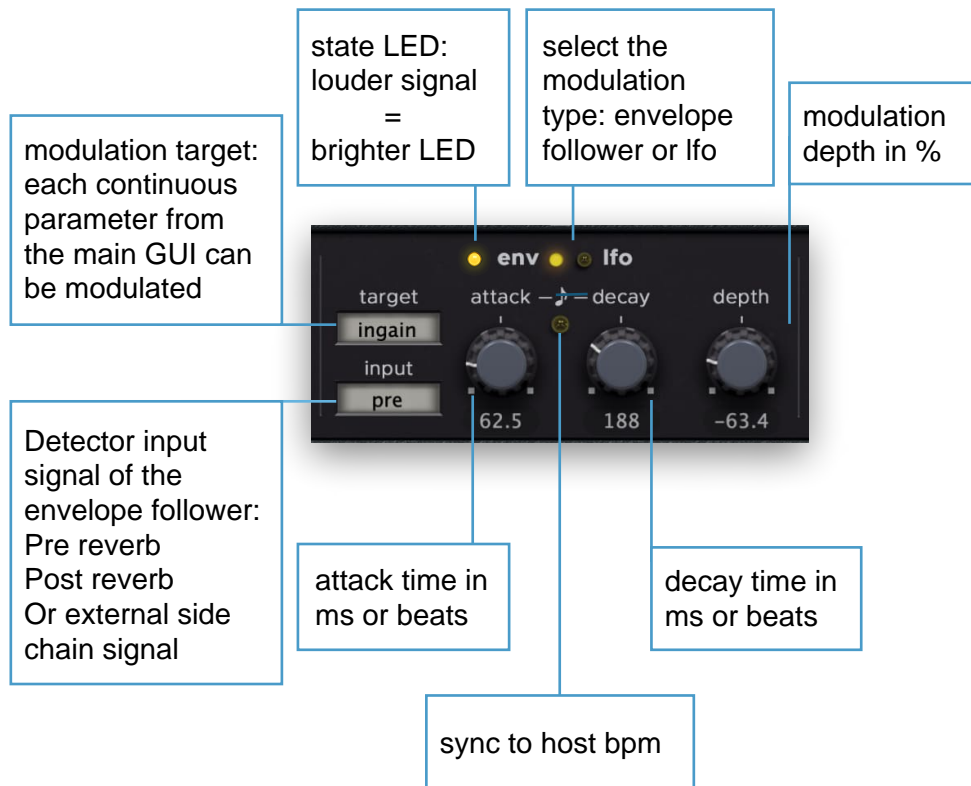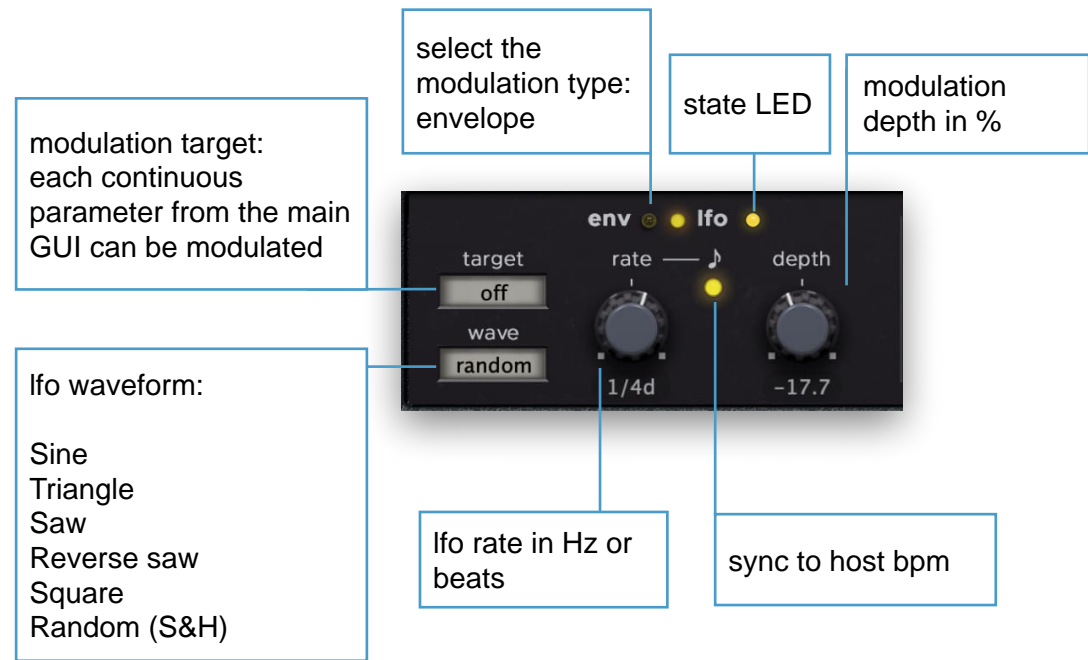
NOTE: the amp uses automatic oversampling at lower project sample rates (44.1 kHz or 48 kHz).
So if the amp is being used (DRIVE parameter isn't set to „off") in this scenario, a small latency is being introduced (31 samples)

Modulation Panel

Envelope Follower

LFO

modulation target:
each continuous
parameter from
the main GUI can
be modulated

state LED:
louder signal
=
brighter LED

select the
modulation
type: envelope
follower or lfo

modulation
depth in %

Detector input
signal of the
envelope follower:
Pre reverb
Post reverb
Or external side
chain signal

attack time in
ms or beats

decay time in
ms or beats

sync to host bpm

modulation target:
each continuous
parameter from the main
GUI can be modulated

select the
modulation type:
envelope

state LED

modulation
depth in %

lfo waveform:

Sine
Triangle
Saw
Reverse saw
Square
Random (S&H)

lfo rate in Hz or
beats

sync to host bpm

8

Extended Control Features

COMBOBOX:

- *Alt + left click*: reset to default value

- *Left click*: show dropdown menu
- *Right click*: selects next item of the drop down menu
- *Alt + right click*: selects previous item of the drop down menu

- *Alt + Cmd + Left click*: Toggles between a factory (off or neutral) state and the previous state of the control.
  This enables you, e.g. to quickly switch the
  - SIZE: toggle between 100% and a previously adjusted GUI-size value
  - AMP section to solo and back to your previously selected state, by Alt+Cmd+LeftClick on the amp position combobox
  - left MOD TARGET: toggle between WHOOSH and a previously adjusted value
  - center MOD TARGET: toggle between TAIL and a previously adjusted value
  - right MOD TARGET: toggle between MIX and a previously adjusted value

ROTARY CONTROLS:

- *Alt + Left click*: reset to default value
- *Double Left click*: reset to default value

- *Right click*: enter value

- *Shift + wheel*: fine adjustment
  caveat: depending on the mouse holding shift can inverse the wheel direction
- *Cmd + drag*: fine adjustment

- *Alt + Cmd + Left click*: Toggles between a factory (off or neutral) state and the previous state of the control. This is useful for example if you want to quickly check how it sounds with and without the AMP:
  - adjust DRIVE to taste
  - now hold Alt + Cmd and click on the DRIVE control to set the DRIVE to OFF
  - Now, when holding Alt + Cmd and clicking on the DRIVE control again, the control is being reset to the previously adjusted value.

  This also works with the following controls:
  - PRE-DELAY: toggle between 0 (off) and a previously adjusted value
  - METALLIC: toggle between 100 (full) and a previously adjusted value
  - WHOOSH: toggle between 50 (neutral) and a previously adjusted value
  - TENSION: toggle between 50 (neutral) and a previously adjusted value
  - TREBLE and BASS: toggle between 0 and a previously adjusted value
  - WIDTH: toggle between WIDE and a previously adjusted value
  - MIX: toggle between DRY and a previously adjusted value
  - MOD DEPTH: toggle between 0 (MOD off) and a previously adjusted value

Tips and Tricks

REDUCE CPU LOAD:
- set the IN to mono (O)
- use set TANK ROUTING to "A" or to "B", so you're using only one tank
- disable the AMP by setting the DRIVE to 0.
- Disabling modulation will also help to reduce CPU usage. However, the effect is much less noticeable compared to using one of the options mentioned before

MODULATION USAGE EXAMPLES:

Issues with getting the envelope follower to react:
- Use the INGAIN parameter below the input meter to adjust the sensitivity of the envelope follower
- Lower the CAL value

Ducking:
- Set MIX to your desired wet level.
- go to one of the modulation slots at the bottom of the GUI - if you can't see the modulation slots, click on the arrow at the bottom center of the GUI
- MOD TYPE: ENV
- TARGET: MIX
- INPUT: PRE
- DEPTH to -100, so the MIX level is 0 when the input signal is present/loud
- Adjust ATTACK and RELEASE to taste

Pitch Vibrato:
- MOD TYPE: LFO
- TARGET: PRE-DELAY
- DEPTH: >0

Chorus like:
- MOD TYPE: LFO
- TARGET: TENSION
- DEPTH: between 0 and 10

Tremolo:
- *MOD TYPE*: LFO
- *TARGET*: OUTGAIN
- *DEPTH*: to taste

Auto-Wah:
- *MOD TYPE*: LFO
- *TARGET*: BASS or TREBLE or use an additional modulation slot to control both BASS and TREBLE with an LFO
- *DEPTH*: to taste

Dynamics shaping:
- *MOD TYPE*: ENV
- *TARGET*: OUTGAIN
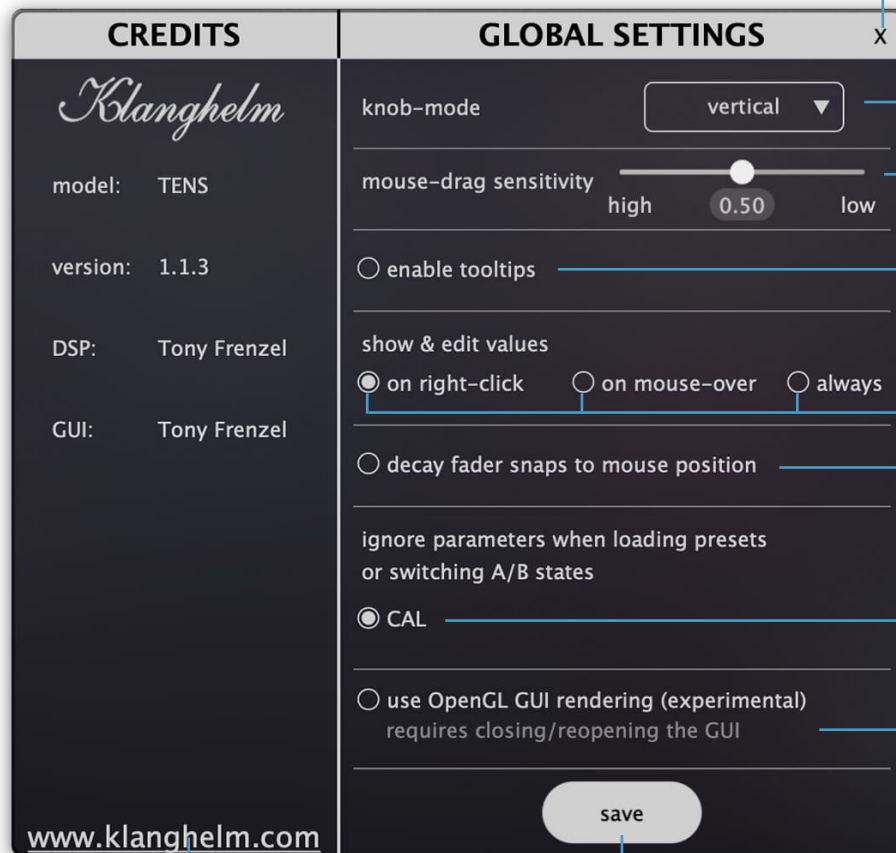- *INPUT*: PRE
- *ATTACK* and *DECAY* to taste
- *DEPTH*: <0

Decaying Pitch
- *MOD TYPE*: ENV
- *TARGET*: TENSION
- *INPUT*: PRE
- *DEPTH*: -100
- *ATTACK*: 0
- *DECAY* to taste

Subtle reverb tail modulation as found in most algorithmic reverbs
- *MOD TYPE*: LFO
- *TARGET*: TAIL
- WAVE: SINE
- *RATE*: 0.5 to 1 Hz
- *DEPTH*: to taste

Global Settings

Click to close the CREDITS & GLOBAL SETTINGS without saving

CREDITS

Klanghelm

model: TENS

version: 1.1.3

DSP: Tony Frenzel

GUI: Tony Frenzel

www.klanghelm.com

GLOBAL SETTINGS x

knob-mode [vertical ▼]

Sets the mouse drag behavior when moving a knob on the GUI

mouse-drag sensitivity high (0.50) low

Sets the mouse drag sensitivity when moving a knob on the GUI, double-click to reset to default

○ enable tooltips

when ticked, an explanation is shown, when hovering

show & edit values
◉ on right-click   ○ on mouse-over   ○ always

Display a text box below each knob to show and edit the control value, right-click on the knob or left-click on the value label (if shown) to enter values

○ decay fader snaps to mouse position

If ticked, the decay fader jumps to the position clicked on the fader track

ignore parameters when loading presets or switching A/B states

◉ CAL

If checked the CAL parameter is being ignored when loading presets or switching A|B states

○ use OpenGL GUI rendering (experimental)
requires closing/reopening the GUI

Enable OpenGL GUI rendering, make sure to have the latest OpenGL drivers installed when using this option

save

Click on the hyperlink to visit the Klanghelm website

Click to save the global settings and close the menu.
The global settings are saved to:

macOS: /Users/<username>/Library/Klanghelm/TENS/settings.xml
Windows: C:\Users\<username>\AppData\Roaming\Klanghelm\TENS\settings.xml

If running into issues, simply delete this file and the factory default global settings will be used again.

Credits

Manual: Tony Frenzel

Code and GUI: Tony Frenzel

Klanghelm TENS uses :

- fontaudio by @fefanto - https://github.com/fefanto/fontaudio

- fontaudio license : https://github.com/fefanto/fontaudio/blob/master/README.md#license
  (Icons: CC BY 4.0, Fonts: SIL OFL 1.1, Code: MIT License)

Special thanks to the beta testers.

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