

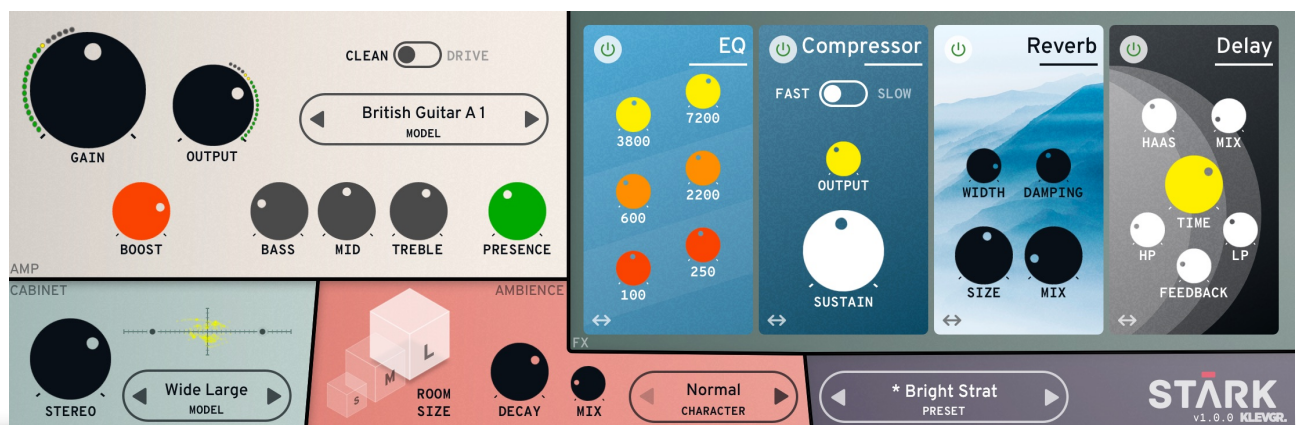
STARK

Amp Simulator



Welcome!

This is the user manual for **STARK**, an amp simulator plug-in effect available for iPad (AUv3) and Mac & Windows (AU/VST/AAX). It has been designed and developed by Klevgrand, a small studio in Stockholm, Sweden. STARK is a fully fledged amplifier simulator consisting of four modules: Amplifier, Cabinet, Room and effects slots. These modules are processing audio separately, which makes it possible to combine different amplifiers with different cabinets and rooms.



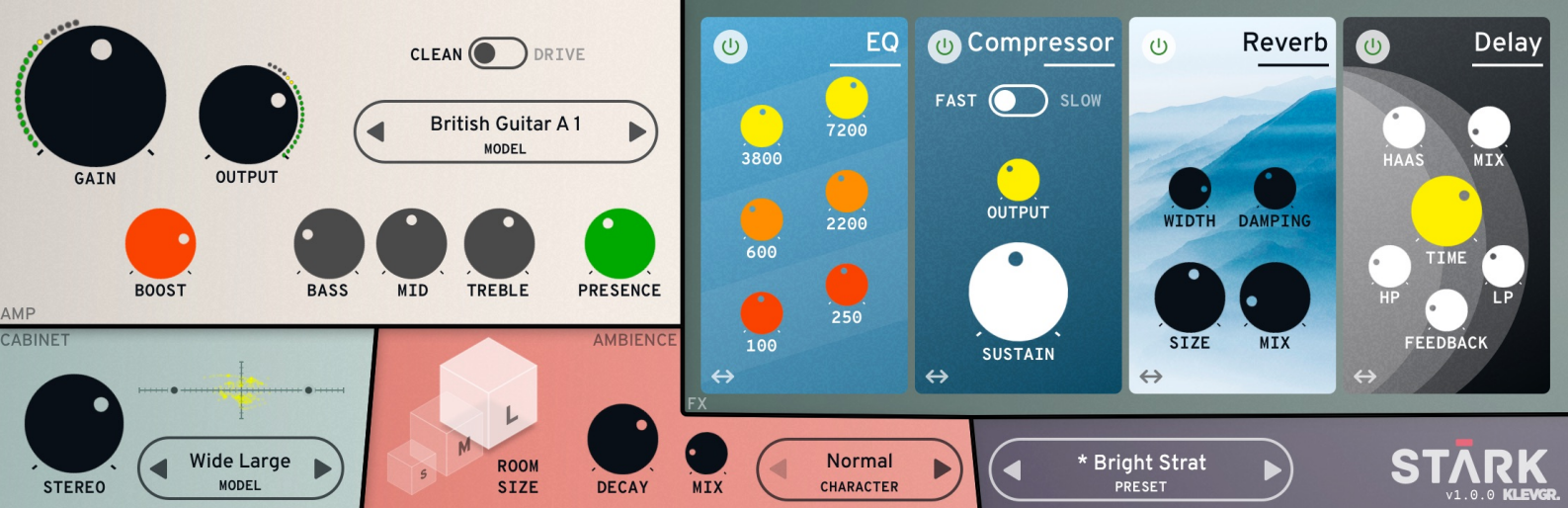
What separates STARK from other amp simulators is that the cab, amp and ambience modules are built on our very own algorithms that doesn't involve any convolution or FFT analysis. We believe our approach renders a more natural response to dynamics over the whole frequency spectrum. It also gives us the ability to fine-tune each profile in ways that just isn't possible when using convolving methods.

[Get the iOS version at the App Store](#)

[Get the AU / VST / AAX version at klevgrand.se](#)

LICENSING (DESKTOP ONLY)

Until unlocked, the plug-in will output 1 second of silence now and then. To unlock the full version, click the Authorize label (bottom right corner) and type/paste your license key.



General concepts

The **Amp** module offers 12 different amplifier profiles. It has both a clean mode and a overdrive mode, an equalizer functionality (including presence), and a booster controlling the end stage amplification saturation.

Cabinet simulation consists of 10 different cabinets of various sizes and sound. This module also offers a stereo width knob that simulates the distance between two microphones put in front of the cone.

Room simulation offers 6 different kinds of rooms, where each room size can be changed between Small, Medium and Large. There's also a decay parameter controlling reflectiveness of the walls and a dry/wet mix.

The **FX** section (pedal board) contains 4 slots where any of the 14 effects can be inserted. The order of the pedals can easily be changed using drag and drop.

There are also about 100 predefined factory presets covering most genres, instruments and needs.

STARK SIGNAL FLOW



AMP

The amplifier consists of 12 different profiles, where each profile has two states: CLEAN and DRIVE. This module controls input gain level, output gain level, and spectral amplification (a three-band EQ and a presence knob). There's also a "boost" functionality that simulates the end stage saturation.

AMP SIGNAL FLOW



1. GAIN

Controls the input gain. Use to control amount of saturation. The meter to the left indicated input signal, and it's not recommended to make it peak (red leds).

2. OUTPUT

Sets the output volume. The meter to the right indicated output level.

3. BASS / MID / TREBLE / PRESENCE

These parameters simulates a bass/guitar amp equalizer. Bass, Mid and Treble are processed pre amplification and presence post.

4. BOOST

Controls saturation of the end stage amp. A high value renders an output signal with more energy.

5. CLEAN / DRIVE SWITCH

Swaps between a clean profile of the amp and a overdriven profile. Note that switching between CLEAN and DRIVE is not the same as changing the input gain, different algorithms are used based on the state of this switch.

6. AMP PROFILE SELECTOR

Click to reveal a list of all available amp profiles, or use the arrows to step through the amps. Available amp models:

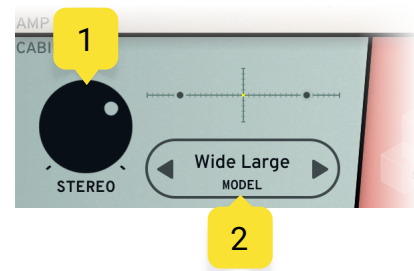
- | | |
|---------------------------|---|
| American Guitar 1 | An edgy amp that rounds off nicely at the top. |
| American Guitar 2 | Similar to American Guitar 1, but with some more presence. |
| British Guitar A1 | Gives a full sound with crisp. |
| British Guitar A2 | Similar to British Guitar A1, but with more body. |
| British Guitar B 1 | A slightly saturated amp with nice character in the high mids. |
| British Guitar B 2 | Similar to British Guitar B 1, but with a more linear frequency response. |



Vintage Guitar	Old high quality Tube Amp. Perfect thickness for playing jazz and soul.
General Tube Amp	Low saturation, quite linear response. Great on elec. pianos / pedal steel.
Garage Sale Amp	Limited frequency response and saturates. The obvious LoFi choice.
American Bass	A versatile pro bass amp.
British Bass	Works fine more edgy bass playing.
Vintage Bass	Slightly attenuated highs. Perfect for soul/jazz/RnB

CAB

There are 10 different cabinets available, where one of them is artificial and simulates a “perfect” cabinet with as small resonances as possible. This module also controls the plugin’s stereo width.



1. STEREO

Controls the stereo width of the output signal.

2. CABINET MODEL SELECTOR

Click to reveal a list of all available cabinet models, or use the arrows to step through the models.
Available cab models:

Wide Small	Small speakers, lots of resonances
Tight Small	Small single speakers, few resonances
Wide Combo	Medium speakers, lots of resonances
Tight Combo	Medium speakers, few resonances
Wide Normal	Medium speakers, moderate resonances
Tight Large	Full range speakers, few resonances
Wide Large	Full range speakers, lots of resonances
Radiola	Small (broken) speakers, moderate resonances
Bass	Low end speaker/Medium speakers, few resonances
Passthrough	Full range speakers, (almost) no resonances

AMBIENCE

Room simulation is built on 6 different room types, where each room's size can be changed between Small, Medium and Large. It's also possible to control the reflectivity of the walls and mix between the dry and wet signal.

1. S / M / L

Sets the room volume. Click each box to swap room size, S is for small, M is for medium, L is for large.

2. DECAY

Sets the reflectiveness of the room.

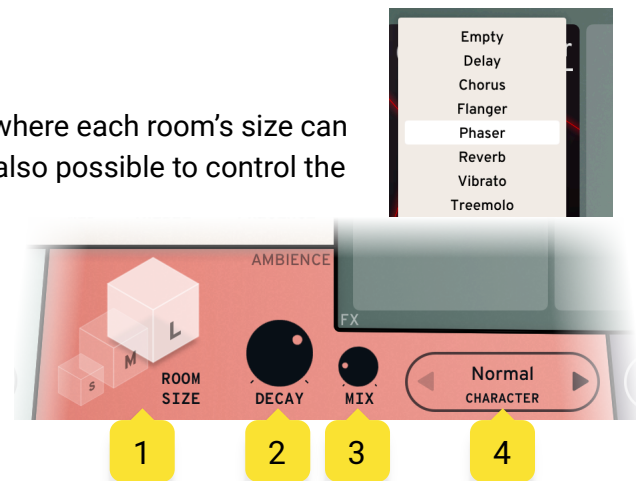
3. MIX

Mixes between a dry and wet signal.

4. AMBIENCE CHARACTER

Click to reveal a list of all available room characters, or use the arrows to step through the rooms. Available ambience profiles:

Normal	A good sounding recording room.
Dark	A room that gives attenuated high frequencies.
Bright	More significant reflections at higher frequencies.
Cold	A room with attenuated low frequencies.
Warm	Gives a livingroom-ish sound.
Boomy	Loud and lots of resonances.



FX

The FX module (or pedal board) offers 14 different effects to be inserted into 4 different slots. It's possible to change order of the effects, and they all can be bypassed.

Note: The pedals are processing audio data from left to right.

To add a pedal in an empty slot, just click the slot and a list of available effects will show up. Just click the wanted effect to put it in the slot.

To replace or remove a pedal, click the pedal title and the list will show up. If you want the pedal to be removed, click the topmost item "Empty".

To change position of a pedal, click and hold anywhere on the pedal where there are no interactive items. Then drag the pedal to the wanted slot. Note that this won't work on an empty slot.

All pedals can be bypassed by clicking the bypass button to the top left on each pedal. Available pedal effects:

Delay	Digital stereo delay.
Chorus	Classic chorus.
Flanger	Flanger with feedback, tone, speed, mix and amount.
Phaser	Classic phaser with the option to decide how many stages to be used.
Reverb	Simple digital reverb.
Vibrato	A stereo vibrato with reshapeable curve and L/R phase offset.
Tremolo	A stereo tremolo with reshapeable curve and L/R phase offset.
Equalizer	6 band peak filter with fixed frequencies.
Compressor	Simple one-knob compressor.
Booster	Signal booster (gain, bass and treble)
Distortion	Simple distortion pedal with tone control.
Distortion+	Complex distortion pedal, choose between Tube and Clip Distortion.
Gate	Simple gate.
Multiband Gate	Four band spectral gate. Very useful on noisy guitars.

Effects Pedals:

DELAY

A stereo delay with highpass and lowpass filtering and the ability to add a haas delay on the wet signal.

HAAS

Microdelaying the wet left or right channel.

MIX

Dry / Wet mix

TIME

Delay time (50 ms to 1000 ms)

HP

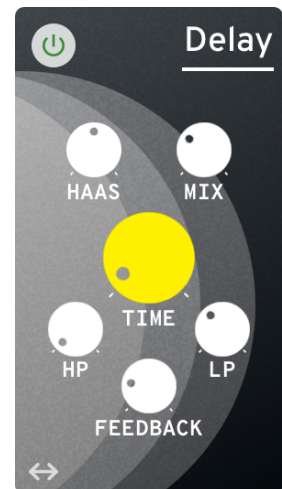
Highpass filter frequency

LP

Lowpass filter frequency

FEEDBACK

Feedback amount (0-90%)



CHORUS

Simple chorus effect with speed control.

STEREO

Stereo width

MIX

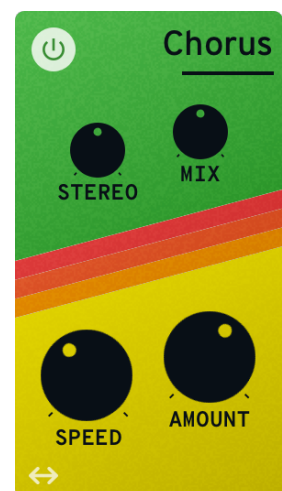
Dry / Wet mix

SPEED

LFO Speed

AMOUNT

Wet signal max offset time amount



FLANGER

Classic flanger with tone control, mix and feedback.

STONE

LP Filter frequency

MIX

Dry / Wet mix

FEEDBACK

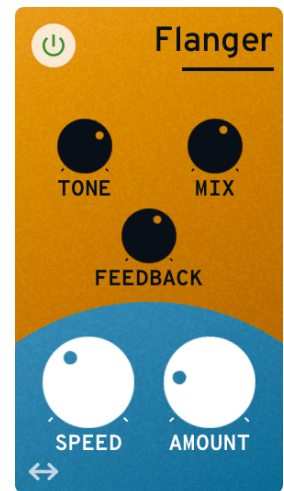
Wet feedback level

SPEED

LFO Speed

AMOUNT

Wet signal max offset time amount



PHASER

Phaser effect with control over number of stages.

CENTER

Center frequency

FREQ

LFO Speed

DEPTH

LFO Amplitude

STAGES

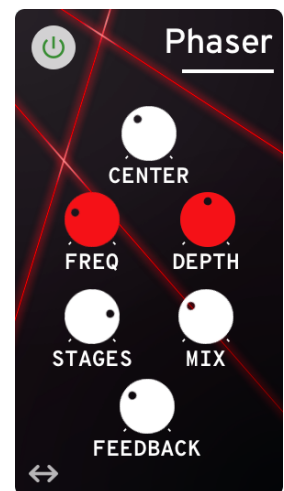
Number of stages to be used

MIX

Dry / Wet mix

FEEDBACK

Wet feedback level



REVERB

Simple but good sounding reverb.

WIDTH

Stereo width

DAMPING

Damping amount

SIZE

Room size (Decay time)

MIX

Dry / Wet mix



VIBRATO

Alters pitch controlled by an LFO. The LFO signal can be skewed and have an offset phase on the right channel.

DUTY

Alters the shape of the LFO (see visuals)

PHASE

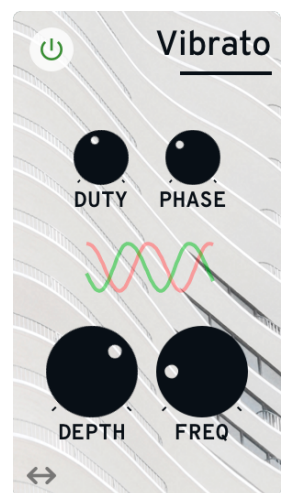
Right channel phase offset (see visuals)

DEPTH

Amount of vibrato.

FREQ

LFO Speed



TREMOLO

Alters volume controlled by an LFO. The LFO signal can be skewed and have an offset phase on the right channel.

DEPTH

LFO Amplitude

FREQ

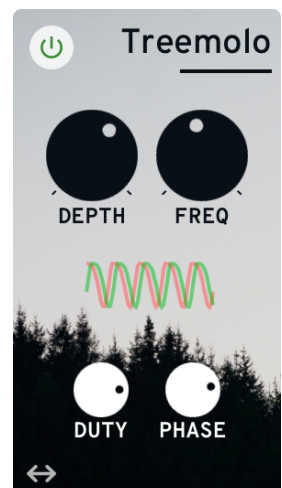
LFO Speed

DUTY

Alters the shape of the LFO (see visuals)

PHASE

Right channel phase offset (see visuals)



EQUALIZER

6-band equalizer with static frequencies for quick spectral shaping.

Each knob controls the gain at the frequency.



COMPRESSOR

Simple one-knob compressor with the ability to switch between fast and slow attack and release.

FAST/SLOW

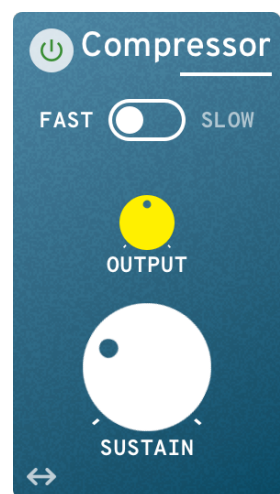
Swaps between fast and slow compressor settings.

OUTPUT

Output level

SUSTAIN

Amount of compression



BOOSTER

Boosts the signal by adding bass, treble and/or gain.

BASS

Bass boost amount

TREBLE

Treble boost amount

BOOST

Gain boost amount



DISTORTION

A distortion effect that distorts in several stages, mixing tube saturation and soft clipping.

TONE

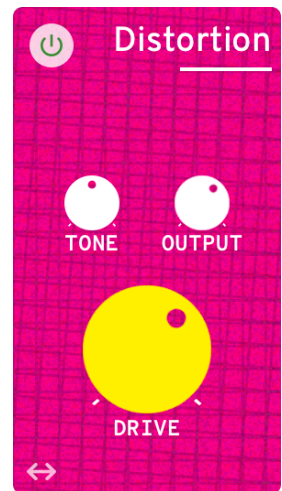
High shelf filter with attenuation.

OUTPUT

Output level

DRIVE

Amount of distortion



DISTORTION+

A complex distortion algorithm with the option to choose tube saturation or soft clipping as the main stage.

TUBE/SOFT CLIPPING Switch

Swaps between tube saturation and soft clipping. Blue indicated selected.

INPUT

Input gain level

HARMONICS

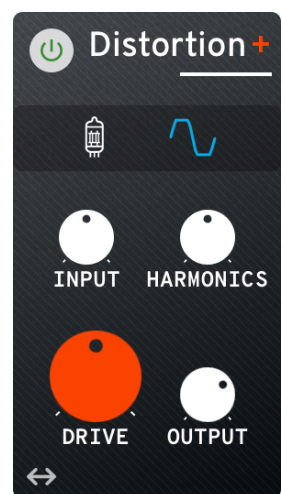
Sets the level of added harmonics generated by the distortion.

DRIVE

Amount of distortion

OUTPUT

Output level



GATE

A gate with fixed attack time. Indicator is green when the gate is open, and red when closed.

RELEASE

Release time

THRESHOLD

Threshold level



MULTIBAND GATE

A four band spectral gate with fixed attack times. Green leds indicates open gate, red leds closed.

BASS

Bass threshold level

LO-MID

Low mid threshold level

HI-MID

High mid threshold level

TREBLE

Treble threshold level

RELEASE

Release time coefficient (each band has different release times, and this parameter affects those relatively)



Factory presets



The factory presets library is revealed by clicking the current selected preset. One can also step through the presets by clicking the arrows on the sides of the box.

The library consists of a list of categories, and each category contains a list of presets. Click a category to show its presets, and click a preset to select it. If any parameter is altered after selecting a preset its title will have an added asterisk in front of the name.

CATEGORIES OVERVIEW

Guitar Clean

Covering most of the available amps (clean state) suited for guitar.

Guitar Overdrive

Covering most of the available amps (overdriven state) suited for guitar.

Guitar Distorted

a set of presets for heavier distortion (metal etc)

Guitar FX

A mix of presets for guitar where pedals are added in a more artistic way.

Keys Clean

Covering most of the available amps (clean state) suited for electric pianos and similar.

Keys Overdrive

Covering most of the available amps (overdriven state) suited for electric pianos and similar.

Keys FX

A mix of presets where pedals are added in a more artistic way.

Bass Clean

Covering most of the available amps (clean state) suited for electric bass.

Bass Overdrive

Covering most of the available amps (overdriven state) suited for electric bass.

Bass FX

A mix of presets for electric bass where pedals are added in a more artistic way.

Specifications / System requirements

Mac	Windows	iOS
64 bit AU/VST/AAX plug-in macOS 10.9+ OpenGL	64 bit VST/AAX plug-in Windows 7+ with SP1 or higher	AUv3 plug-in iPad Air 2 or better iOS 9.1+

KLEVGR.