output | S≋BSTANCE

Owner's Manual

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Main Page

　　SUBSTANCE's Main Page is where you can quickly mix, mute, or even swap out various sound sources per layer. At the very center of the main page, click on the power buttons to mute a source. Moving out from center, click + drag the gray sliders to adjust the volume of each individual layer. You can quickly cycle through sound sources on a layer by clicking the left/right arrow buttons on either side of the source title. The main page is also where you'll find the four Macro sliders that allow you to adjust up to six parameters at once with a single slider.

Edit Page

        SUBSTANCE's Edit Page is the where the trigger settings for all three sound sources can be set. Edit the volume/amplifier ADSR envelope, pan field, tuning, and sample start settings. You can also enable/disable monophonic mode and Legato on the Edit Page. In the **Advanced** menu, you can set the keyrange, glide time, and velocity sensitivity per layer. When **relative** **is** enabled, the glide time will be relative to the note interval distance, so the glide time will be shorter between two notes that are a 2nd apart and longer for two notes that are a seventh apart. With 'relative' disabled, the glide time is the same regardless of interval distance. Notice that the mute on/off, volume, and sound source can all still be altered on this page via the buttons next to the source name.

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EQ Page

The EQ Page shows SUBSTANCE's three band EQ per layer. Click on either low, mid, or high to access controls for each corresponding band. Below the layer-level EQ is a global EQ with similar frequency, gain, and bell/shelf controls.

Filter Page

Similar to the EQ Page, the Filter Page allows you to view and edit the settings for each layer at once. Click on the 'filter' and 'adsr' buttons to toggle between settings for the filter envelope and the cutoff/resonance settings. To display SUBSTANCE's filter modes, click on the 'filter type' dropdown box.

Filter Controls

Cutoff: sets the frequency at which the filter begins to work.

Resonance: sets the amount of volume emphasis at the cutoff frequency with respect to the filter type.

Velocity Sensitivity: settings right of center will increase the filter cutoff frequency with higher velocities. Settings left of center will decrease the filter cutoff frequency with higher velocities.

Filter Cont'd

Filter Types - Below are the various types of filters available in SUBSTANCE

AR LP2: two pole low pass filter that automatically adjusts the resonance according to the input signal.

AR LP4: four pole low pass filter that automatically adjusts the resonance of the filter according to the input signal.

Daft LP: two pole lowpass filter with an aggressively emphasized resonance.

AR HP2: two pole high pass filter that automatically adjusts the resonance according to the input signal.

AR HP4: four pole high pass filter that automatically adjusts the resonance of the filter according to the input signal.

Daft HP: two pole high pass filter with an aggressively emphasized resonance.

AR BP2: two pole band pass filter that automatically adjusts the resonance according to the input signal.

AR BP4: four pole band pass filter that automatically adjusts the resonance of the filter according to the input signal.

Formant: mimics the frequency response of the human vocal tract.

Phaser: uses an Allpass filter to introduce peaks and notches in the spectrum according to the Allpass filter's cutoff frequency.

Filter Envelope

Attack: time in ms it takes for the filter to reach the target cutoff frequency.
Decay: time in ms it takes for filter to reduce target cutoff frequency to sustain level.
Sustain: resting cutoff frequency while notes are held.
Release: time in ms it takes for the cutoff frequency to return to the initial value when notes are no longer triggered.

AMT: percentage that the envelope affects the filter cutoff. Settings right from center will increase the filter cutoff during the envelope period, settings left of center will decrease the filter cutoff during the envelope period.

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FX Page - Layer FX

The following fx are found on each of the three layers. Click the 'on' button to enable an fx module, then click on the colored square to access the settings pertaining to that effect.

Distortion - there are three types of distortion available in SUBSTANCE.

Tube: emulates the compression/distortion characteristics of vacuum tubes.
Adjust the Saturation to blend in more compression/distortion. Gain controls allow you to make up any volume that was lost as part of the saturation.

Dirt: emulates an amplifier's distortion. The bite control increases the amount of distortion

Lofi: reduces the sample rate and/or bit depth.

Motion - there are three types of motion fx available in SUBSTANCE.

Chorus: doubles and slightly detunes the sound according to the depth control (which is modulating pitch shift). Speed determines the pitch shifting LFO's modulation rate.

Phaser: an allpass filter sweeping via an LFO. Adjust the phase control to change the phase difference between the two LFOs used for the left and right stereo channels.

Flanger: similar to a Chorus effect but with a much slower LFO modulation rate.

FX Page - Layer FX Cont'd

Pitch - Shift the layer's pitch via an ADSR Envelope and use Flutter to introduce slight (or extreme) fluctuations in pitch with an LFO.

Amount: semitones in which the pitch shifts up or down. Settings to the left will decrease the pitch, settings to the right will increase the pitch.
Attack: time (in ms) it takes for pitch to reach set value.
Decay: time (in ms) it takes for pitch to reach sustain level.
Sustain: pitch at which the sound will remain until the trigger is released.
Release: time (in ms) it takes for the pitch to return to the root note.
Flutter Amount: semitones in which the pitch shifts up.
Flutter Frequency: rate in which the pitch is modulated up and down between the normal and shifted values.

Compressor

Amount: adjusts the input level and threshold.
Ratio: determines the strength of volume reduction.
Attack: time (in ms) for compression to take place.
Release: time (in ms) for volume reduction to stop.

Delay

Time: time interval between delays (in divisions of a beat).
Feedback: adjusts length of echoing.
Pan: stereo spread amount of echoes.
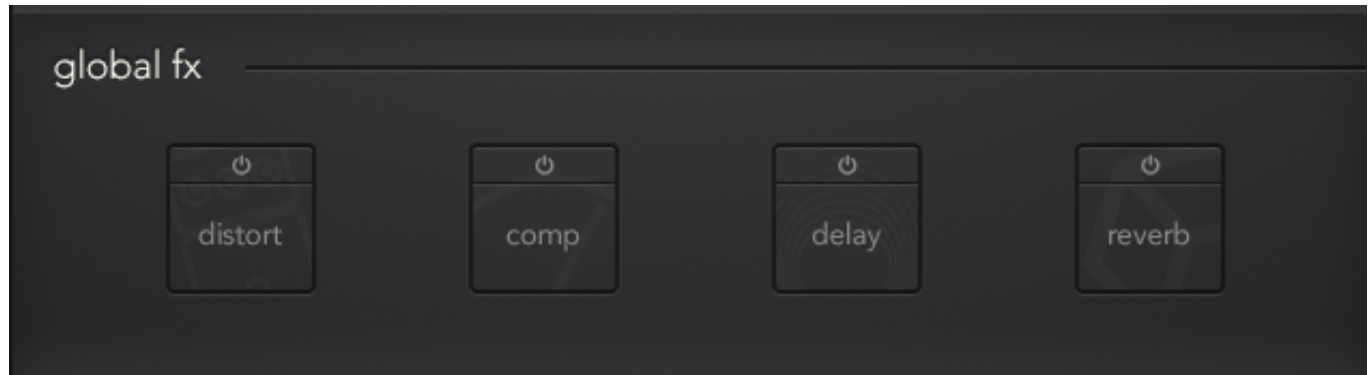**Wet:** mixes the effected and dry signal.

Reverb

Predelay: time in ms between sound event and first reflections.
Size: adjusts the size of the room sound.
Wet: mixes the affected and dry signal.

FX Page - Global FX

The following fx act upon the mix of all three layers - we call them 'Global FX.' Similar to the layer- based fx, click on the power button to enable the fx, then click the colored square to access the particular fx settings.

Distortion - A mix of both guitar amplifier and guitar pedal modeled distortions.

Screamer Drive: adjust the level of warm overdrive distortion.
Screamer Tone: control the brightness of distortion.
Screamer Bass: boosts or cuts the bass frequencies.
Screamer Bright: boosts or cuts the high frequencies.
Cabinet Type: select the type of guitar amp simulation.
Cabinet Size: adjusts the emulated cabinet size, altering the resonance of the distortion.
Cabinet Air: control the simulated amp room response.
Cabinet Output: control overall output level.

Compression

Threshold: level above which volume is reduced.
Ratio: determines the strength of volume reduction.
Attack: time (in ms) for compression to take place.
Release: time (in ms) for volume reduction to stop.
Gain: adjusts the output volume after compression.

FX Page - Global FX Cont'd

Delay

Time: time interval between delays (in divisions of a beat).
Feedback: adjusts length of echoing.
Pan: stereo spread amount of echoes.
Wet: mixes the effected and dry signal.

Reverb

A convolution based reverb unit. Uses algorithms based on acoustic triggers to approximate a 'real-life' reverb signal. Choose from over 16 different creative and real convolution algorithms. The 'real' algorithms result in more common reverb sounds such as rooms, halls, plates, and guitar amplifiers. The 'creative' algorithms were designed to provide more dynamic frequency and spatial characteristics in the reverb signal.

Pre DLY: time interval between delays (in divisions of a beat).
HP: high pass filter at the reverb's output.
LP: lowpass filter at the reverb's output.
Wet: mixes the affected and dry signal.

Rhythm Page

     The Rhythm Page is where all modulation is mixed and configured from a single rhythm source. The amount of modulation can be dialed in by dragging the colored blocks up and down that pertain to a given parameter. Rhythm send settings in the positive direction will result in positive polarity (think, a knob turn to the right) and vice versa. This means that SUBSTANCE's mod rhythm source can modulate, say, the volume of the red layer up and down, and the volume of the blue layer down and up.

Rhythm Page Cont'd

Modulation Mixer

The modulation destinations per layer are set to volume, distortion bite, filter cutoff, and filter resonance. The amount of modulation occurring on each layer is indicated by the colored blocks. Click and drag the colored block to alter the modulation amount in either direction. You can quickly edit the parameter itself by hovering over the parameter name and clicking on the knob icon.
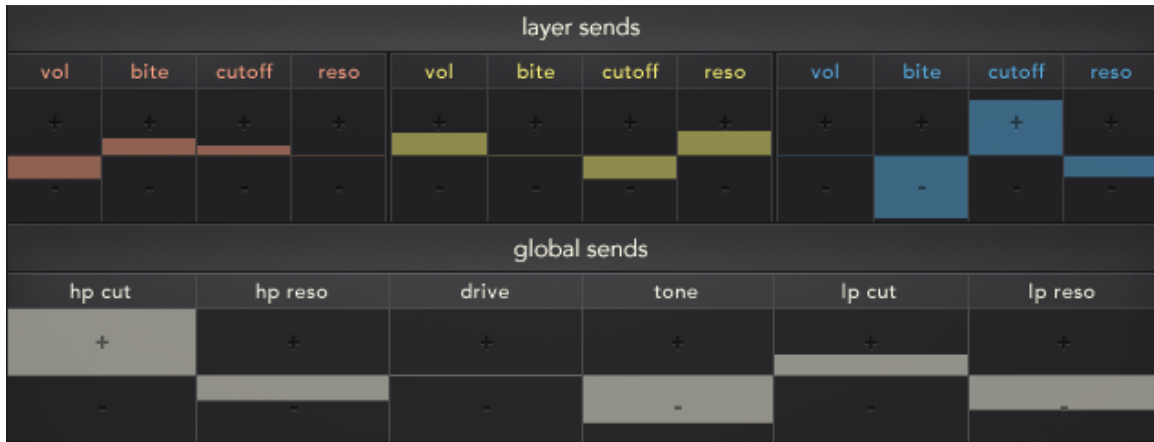
Modulation Editor

SUBSTANCE has one modulation source, either an LFO or step sequencer, which is patched into all of the modulation destinations listed in the above Modulation Mixer section. Here you can set the rate, swing, and either draw or select a preset shape of modulation. You can also invert, randomize, and offset the LFO by degrees. You can 'draw-your-own' LFO by clicking the 'custom' button and click +dragging in the LFO shape area.

Though each time you play a single key, the modulation signal will restart, enabling the **Retrigger** button will make sure that the modulation signal will reset when two or more notes are triggered. Without Retrigger selected, after holding one note, the modulation signal will not be reset when the second and/or subsequent notes are triggered. If Retrigger is selected and you hold one note, the modulation signal will be reset when the second and subsequent notes are triggered.

Rhythm Page Cont'd - Flux

Flux is a secondary step sequencer dedicated to fluctuations in the global modulation rate. Depending on the step value at any given moment, Flux will either increase or decrease the global modulation rate of SUBSTANCE's modulation. Click the on/off button to enable/disable Flux, then click the 'edit' button to make changes to the Flux settings.
Here you can draw a sequencer shape or generate a random sequence by clicking on the randomize button. The **Flux Rate** sets the speed of the step sequencer that is increasing and decreasing the global modulation rate. This allows you, for instance, to have a sequence running at a quarter note rate, which changes speed up or down at a rate of 16th notes, 1/8th notes, 1/4 notes, 1/2 notes, or one bar.
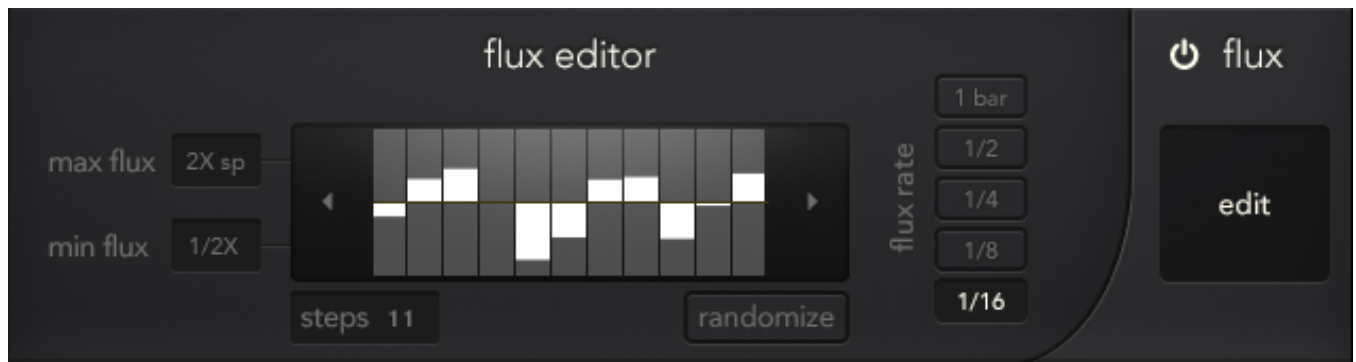
The Flux sequencer starts and stops with note triggers, and returns to zero when a note is not triggered. You can adjust the resolution of a step's positive or negative value by changing the min/max flux setting. For example, a step value of 100% (fully vertical height of a white block) with max flux set to '8x speed up' will result in a global modulation rate increase of 8x when the Flux sequencer reaches the given step. A step value of 50% with max flux set to '8x speed up' will result in a global modulation increase of 4x. Customizing min and max Flux settings offer much greater variation in global modulation rate.

Arpeggiator

SUBSTANCE's arpeggiator has 12 playback styles:

Pedal Tone: alternates between the lowest note and each successive note in the arp sequence.
Up: plays triggered notes in ascending order
Down: plays triggered notes in descending order
Up-Down: plays triggered notes in ascending, then descending order
Down-Up: plays triggered notes in descending, then ascending order
Random: plays triggered notes in random order
Chord: plays all triggered notes polyphonically
ZigZag: Up: plays ascending in the note order: lowest, second highest, second lowest, highest
ZigZag Down: plays decending in the order: highest, second lowest, second highest, lowest
ZigZag Up-Down: plays the ZigZag Up pattern, then the Zig-Zag Down
ZigZag Down-Up: plays the ZigZag Down pattern, then the Zig-Zag Up
As Played: plays back the notes in the sequential order that they are triggered

Arpeggiator Cont'd

Below the playback style selection area is a step table which can program different velocities per step (a value of zero here acts as a mute). Velocity patterns can be chosen as presets by clicking the 'Pattern' button, shifted left/right via the arrow buttons, or randomized. Velocity patterns can be lengths of 1-64 steps. Click the 'reverse' button to effectively reverse the velocity pattern.

Set the number of additional octaves that the arpeggiator plays above or below in the **Octave selector** (a setting of 0 will arpeggiate the notes in the octaves that they are triggered with incoming MIDI). You can also drag this number below zero to expand the arpeggiated sequence to octaves below the range that is currently being triggered. Adjusting the Gate value will increase or decrease the duration of each note in the arpeggio (the max gate length is determined by the arpeggio rate).
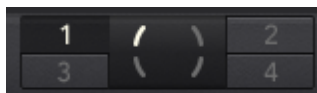
Macros

SUBSTANCE has four **Macro Sliders** that allow users to control up to 6 parameters per slider. This means that you can change 24 parameters at once! Each of SUBSTANCEs presets has parameters mapped to all four Macros.

Make edits and assignments to SUBSTANCEs Macros by clicking on the 'Macro' button in the top right of SUBSTANCE's menu panel to enter Macro edit mode. In Macro edit mode, the preset selection window is replaced with the Macro Edit Selector, allowing you to select the Macro in which you'd like to edit by clicking numbers 1-4 on the Macro edit selector.

Macros Cont'd

In Macro Edit mode, SUBSTANCE's Main Page becomes the Macro Edit Page. This is where you edit the range/depth of each effect parameter and bypass/remove a parameter from a Macro Slider.

Assigning Macros

In Macro Edit Mode, you can assign parameters to the selected Macro Slider with a simple click. Click the same parameter again to undo the assignment. You will know if a parameter is assignable or not when you hover over the parameter. If you see the 'Assign' icon with a corresponding number, the parameter is available to be assigned to the selected Macro. Alternatively if you see the Macro Remove icon when hovering over a parameter, you can click to remove the parameter from the respective Macro Slider.

If you hover over a parameter that is already assigned to another Macro Slider, you can override the assignment by clicking on the 'Override' button that appears when hovering. This will remove the parameter from the older Macro Slider and assign it to the new one. If a Macro Slider has 6 assignments, you will see a 'Full' icon – meaning that current Macro assignments need to be removed before new parameters can be added.

Editing Macros

Navigate to the desired Macro slider via the Macro Edit Selector or clicking the circular macro number button above the Macro slider.


Adjust and range of the macro assigned parameter by moving the green indicator to the right for modulation amount in the positive direction, and left for modulation amount in the negative direction. The red mark indicates the parameter's value when the corresponding Macro Slider is set to its lowest point. The green mark indicates the parameter's value when the Macro Slider is set up to full scale.

Macros Cont'd

      In SUBSTANCE, you can also adjust the relative 'floor' value relating to the red mark. In the example below, sliding the red mark on the 'Freq' slider will update the 'red' value indicated in the parameter's respective Macro range (the lower 'range' slider). In other words, you can stay on the Macro Edit Page and adjust the relative value of the lowest Macro Slider setting per parameter.

Presets
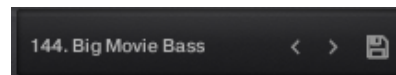
      Presets in SUBSTANCE are accessed on the either the Main or Preset pages. To access the Preset Page from the Main Page, click on the name of the currently loaded preset. Here you'll find a list of all SUBSTANCE presets. Use any of the 30 tags to help filter your search by characteristic. You can also scroll up/down the list to browse through presets in order. SUBSTANCE allows users to star their favorite presets, then sort the preset list by favorites. Hover over the preset name in the list and you'll see a darkened star icon to the left of the preset number. Click on the star to save the preset as a favorite.

Saving A Preset

      To save a preset in SUBSTANCE, click on the disk icon next to the preset name in the center of the top menu panel. You'll be prompted to either resave the current preset or save a new preset. When you save a new preset, you'll be prompted to enter the name of your preset, and assign any applicable tags. Click 'Save,' and you'll now be able to access this preset with the 'User' tag along with any other tags assigned when saving. Keep in mind that it's not possible to save over factory presets, so you'll always need to save a new copy of a factory preset after editing.

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Presets Cont'd

Anytime presets are added to the SUBSTANCE > Library Data > Substance Presets directory, you must **run a scan** for presets in order for the new presets to show in the list. To run a scan for presets, navigate to the preset selection page and clicking on the small 'SCAN' button in the bottom left corner of the presets list. Then click on the '--- SCAN ---.nka' to begin the scan for presets.
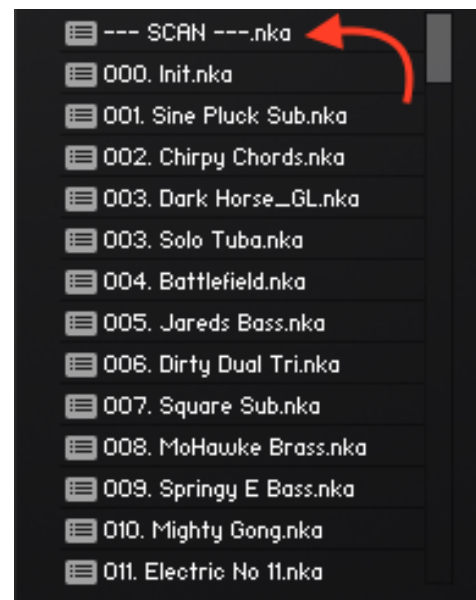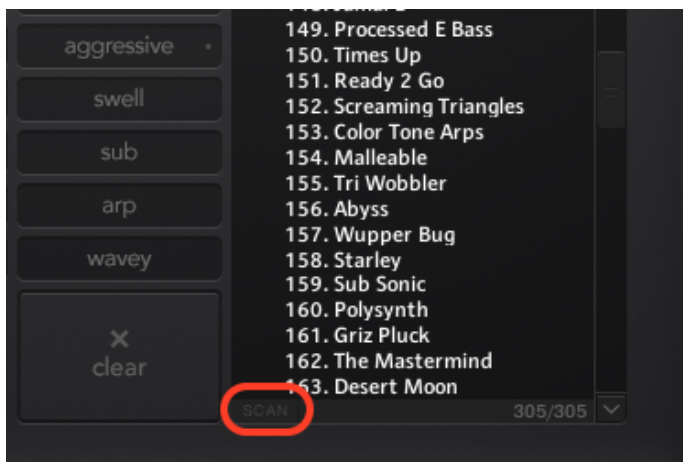
Additional Tips/Info

If this is your first Kontakt library, please refer to the getting started videos on our website for information on how to add and activate SUBSTANCE in Kontakt.

After adding SUBSTANCE as a library in Kontakt, we recommend running a batch re-save in Kontakt. This will drastically improve load times. Check out the 'Getting Started' section of our website to see how to batch resave.

We recommend setting your DAW's buffer size to at least 512 samples in order to ensure the best CPU performance while using SUBSTANCE. We also recommend using a 64 bit DAW. 64 bit applications are not limited to accessing 4GB of RAM at once (which is the case with 32 bit applications). When your DAW has access to more RAM, it will be able to handle more

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