



analog str///ngs

Owner's Manual



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If this is your first Kontakt library, please refer to this video on [Installing an Output Kontakt Library with Output Hub](#) for information on how to install, add, and activate ANALOG STRINGS' in Kontakt.

1 - MAIN PAGE



ANALOG STRINGS' Main Page is where you will be able to make quick changes to the instrument's mix, sound source, and most importantly - macro settings. This is where you'll want to be when you're not dialing in the details of the sound, but rather exploring presets and performing with Macros. The top half of the Main page is the Macro mixer, click + drag one of the sliders from left to right to advance the Macro control.

The controls on the bottom half of the main page will remain throughout the instrument regardless of which page you are using. Here you can mute, mix, reverse, or mutate playback settings depending on the type of source you're playing.

You can also quickly cycle through sound sources on a layer by clicking the left/right arrow buttons on either side of the source title. Click the name of the source to open up the full source menu, then double click on the name of the source to select it.

2 - EDIT PAGE



ANALOG STRINGS' Edit Page is the where the trigger settings for both sound sources can be set. Edit the volume/amplifier ADSR envelope, the pitch ADSR envelope, pitch flutter, stereo pan field, tuning, and playback settings.

ENVELOPE

Curve: Adjusts the attack articulation between concave (knob full left), linear (knob set to 50%), and convex (knob fully right) curve types for the attack.

Attack: Time in ms it takes to reach full value after a note is triggered.

Decay: Time in ms it takes to reach sustained level after the attack.

Sustain: Resting level while note is held between decay and release periods

Release: Time in ms it takes for the level to fade to zero after the key is no longer held.

FLUTTER

An LFO that modulates pitch of a source. Adjust the Fade-In time to control the amount of time in ms that it takes for the LFO to reach the full effect on the pitch. Useful to create a natural vibrato effect.

Freq: Speed in Hz of the LFO pitch modulation.

Amount: Strength of pitch modulation.

STEREO

Pan: Adjusts the pan field of the source - left to right.

Spread: Increases/decreases the stereo width of a source. A full left knob turn is mono, center is how the source was recorded, and a full right knob turn will give an enhanced stereo image.

MONOPHONIC/LEGATO

You can enable/disable monophonic and legato modes from the Edit Page by clicking the 'monophonic' button and clicking the blue on/off button for legato.

3 - LOOP EDIT ADVANCED PAGE



In the Advanced menu, you can set the key range, swap stereo perspective (for orchestral sources), adjust the glide time, dial in velocity sensitivity, and edit color settings per layer.

Adjusting the Color in the Advanced settings will allow you to trigger a different sample but maintain the same pitch - resulting in a variation of character based on the differences between the two recorded samples. For example, If you play C3, you're going to hear the sample that was recorded as C3. If you then adjust the color to +2, you'll still hear the pitch of C3, but the sample that plays back was originally recorded as D3 but has been pitched down to the tonality of C3. The Color control is meant to expand the sonic characteristics of the sample by making it sound thicker or thinner.

Please note that using Color will affect the range of your layer since the Color control will shift all of the notes either up or down.

The switch to swap stereo perspective is useful if you'd like to go back and forth between 'audience perspective' and 'performer's perspective' of the orchestral sound sources.

The Glide knob adjusts the portamento or slide time between two consecutively played notes. 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.

4 - FX PAGE - Layer FX



LAYER FX

Filter: Choose from 11 different filter types with frequency cutoff, resonance control, velocity sensitivity cutoff modulation and Filter Envelope.

EQ: 3 frequency bands with adjustable bandwidth and gain cut/boost controls.

Distortion:

- 1 - Tube: emulates the natural compression and saturation that happens with vacuum tube amplifiers.
- 2 - Drive: drive determines the amount of distortion, Dampen acts as a lowpass filter to reduce the high frequency harmonics added by the distortion.
- 3 - Lo-Fi: Sample rate and bit reduction.

Compressor: Threshold, ratio, attack, release, and gain control.

Delay: Tempo-synced delay time, feedback, L-R pan amount, wet/dry mix control.

Reverb: Room modeled reverb with predelay, size, and dry/wet control.

5 - FX PAGE - Global FX



GLOBAL FX

The Global FX affect the sound for both layers.

Filter: High and lowpass filters with frequency cutoff and resonance control.

EQ: 3 frequency bands with adjustable Q and gain cut/boost controls.

Distortion: Emulates the tone of classic British guitar amps. Gain sets the 'preamp' gain, the bass, middle, and treble are tone color controls.

Compressor/Limiter: Compressor offers a threshold control, ratio range from 1:1-1:25, attack/release and gain. The limiter has input gain controls and release time.

Motion: Chorus and Phaser effects with selectable depth, speed, feedback, phase, and wet/dry controls.

Delay: Two tempo-synced delay time, feedback, L-R pan amount(ping-pong) and wet/dry mix control.

Convolution Reverb: Select from up to 16 different 'creative' impulse responses and 7 different realistic impulse responses. Control the pre delay time, early reflection size, late reflection size, cutoff frequencies of high and lowpass filters, and the overall wet/dry mix.

6 - RHYTHM PAGE 1/2



Each layer of ANALOG STRINGS has two independent rhythm generators - either LFO or Step Sequencer. Each of the rhythm generators can modulate the following parameters: layer volume, layer pan, filter cutoff, filter resonance, tube saturation, distortion drive amount, lo-fi distortion bits and lo-fi distortion sample rate.

You can quickly turn off all rhythmic modulation by clicking on the power button next to the 'rhythm' tab. Also, all of the rhythm generators have their own power button so you can choose which modulation sources are active and which are not. Clicking the button next to the rhythm slider will take you to the respective control to adjust its value.

Set the rate (speed) of modulation by clicking on the fraction button next to the label of the rhythm generator. From here you can either select the rate from a table, or use the rate knob.

Next, dial in the amount of modulation acting upon each of the 8 modulation destinations by click + dragging the mod sliders up and down from the center zero position. Dragging the slider up will result in positive modulation (a right knob turn) while dragging the slider down will result in negative modulation (a left knob turn).

6 - RHYTHM PAGE 2/2

Moving further down the interface you can select between LFO (wave) or Step Sequencer modulation types. When LFO is selected, click the 'Shape' button to choose from a selection of preset LFO wave shapes, or use the left/right arrows to cycle through the shapes in the menu.

When **retrigger** is enabled, the modulation phase will reset with each note played. Without Retrigger selected, after holding one note, the modulation signal will not be reset when the second and/or subsequent notes are triggered. **Fade in** will delay the onset of the LFO in ms based on the value set in the number box.

When Step Sequencer is selected, you can similarly choose from a preset pattern or scroll through the preset patterns using arrows. Set the number of steps in your sequence with the 'steps' number box, use 'flip' to reverse the order of the sequence, and click 'random' to generate a random pattern. You can also draw your own step pattern. Increase the **smooth** amount to add a glide between steps in the modulation sequencer effectively creating a custom LFO shape.



In ANALOG STRINGS, **Flux** is reimagined as a step rate sequencer that determines modulation rate of all rhythm generators. Each step of the flux rate sequencer has a rate parameter - meaning when the flux sequencer reaches a step, all rhythms with Flux enabled will modulate at the rate set to the current Flux Rate sequencer step. Additionally, you can set each Flux sequencer step to remain on the current step for a set amount of time. For example, if the first step of the Flux sequencer is set to a $\frac{1}{4}$ rate and the 'reps' number box beneath the step is set to 2, then all rhythm generators will have a rate of $\frac{1}{4}$ for the musical duration of a $\frac{1}{2}$ note ($\frac{1}{4}$ twice). The **speed** buttons will either half or double the values set in the flux sequencer (TIP: the speed buttons are MIDI CC assignable, so mapping a CC trigger button to speed can offer a fun performance tool).

Once you dial in a great rhythm, save it as a preset in the rhythm preset section. Please note that all the rhythm panel settings minus the mod settings are being saved and will be replaced when loading a rhythm preset.

Be sure to check out the number of creative rhythm presets that Output provides with ANALOG STRINGS right out of the box.

7 - ARPEGGIATOR 1/2



ANALOG STRINGS' arpeggiator is the most advanced arp we've built to date. Select the direction of arpeggiation from a menu offering the following options:

ARP TYPE

Pedal Tone: Alternates between the lowest (or highest) 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.

ZigZag Up: Plays ascending in the note order: lowest, second highest, second lowest, highest.

ZigZag Down: Plays descending 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.

Random: Plays triggered notes in random order.

As Played: Plays back the notes in the sequential order that they are triggered.

Chord: Plays all triggered notes polyphonically.

7 - ARPEGGIATOR 2/2



STEP TABLE

The step table shown in the arpeggiator allows you to program in the accent level of each note in the arpeggio. Adjust the number of steps in the table with the **steps** number box. This step table can be reversed or randomized via the corresponding buttons. **Reps** controls the amount of repetition of each arp step, so you can create ostinatos within the arpeggio pattern. The **pedal** setting determines whether the highest or lowest note will be alternated when 'pedal' is enabled.

ARP RATE

Set the speed of the arpeggio with the **rate** knob or by clicking on the box to open a table of rate values.

SETTINGS

Duration controls the gate time for all steps, so a left knob turn will result in shorter, staccato articulations and a right knob turn will have longer articulations of each note.

Increase the **swing** knob to add a human feel to the arpeggio rhythm in a positive or negative manner. The **octaves** knob sets how many octaves the arpeggio will run through with positive values moving the arpeggio up and negative values down.

Finally, you can click **fixed velocity** so all notes in the arp pattern will play back with the same velocity. If you set fixed velocity, the velocity step pattern is ignored.

8 - MACROS 1/2



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 '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.

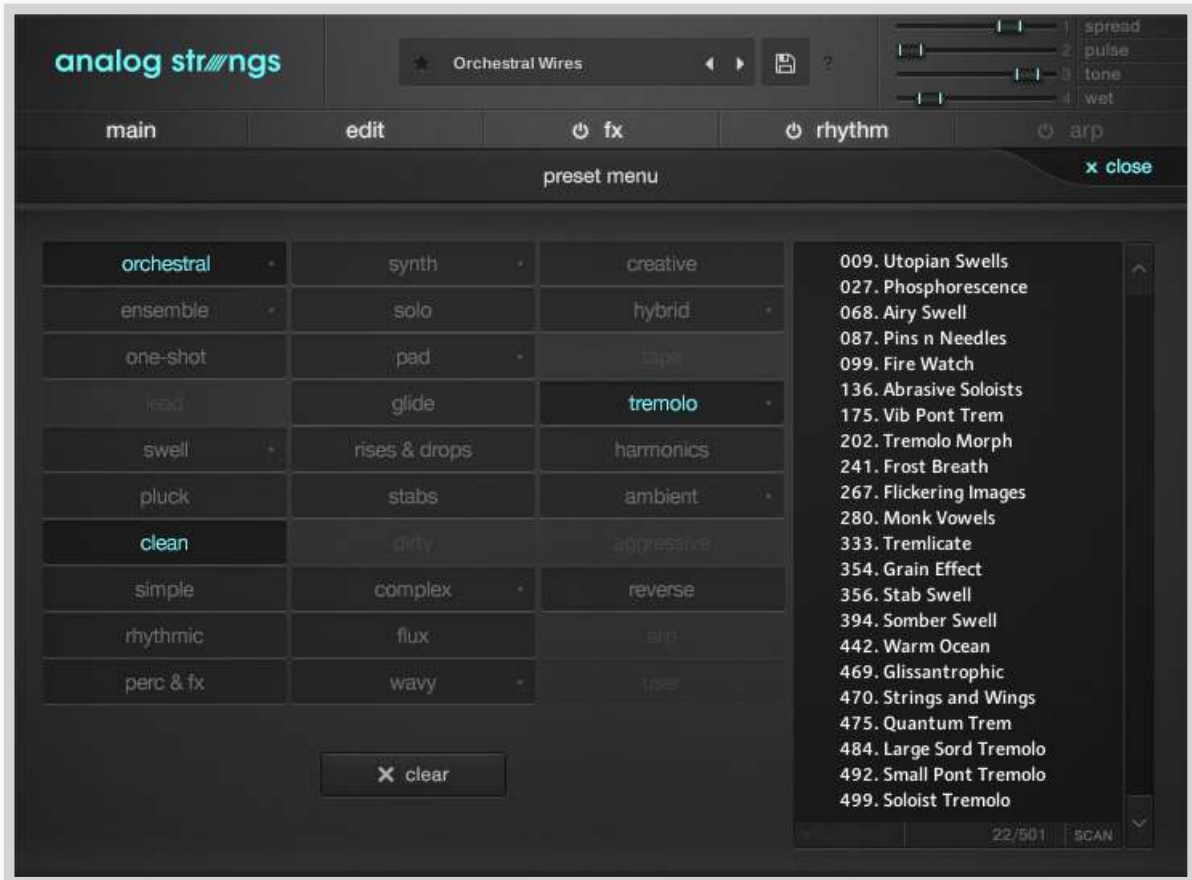
8 - MACROS 2/2

EDITING MACROS

Navigate to the desired Macro slider by clicking the Macro Edit button in the Main page or Macro slot in the top right corner. 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.

In ANALOG STRINGS, 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.

9 - PRESETS



In ANALOG STRINGS, you can change between presets regardless of the page that you're currently working on. Simply click the previous/next arrow buttons to the right of the preset name in the top center of the UI. When you click on the name of the currently loaded preset, you'll enter the Preset page. Here you'll find a list of all ANALOG STRINGS 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. ANALOG STRINGS allows users to "star" their favorite presets, then sort the preset list by favorites.

Anytime presets are added to the ANALOG STRINGS > Library Data > Analog Strings Presets directory, you must relaunch ANALOG STRINGS and 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 right corner of the presets list. Then click on the '--- SCAN ---.nka' to begin the scan for presets.

It's possible to load presets with or without fx, rhythm, or arpeggiator settings by default. To do this, you need to enable the lock feature for fx, rhythm, and/or arp. Simply hold the option (alt) key and click on the power button next to fx, rhythm, and/or arp. You'll notice that this will lock the current on/off state of fx, rhythm, or arp. This is useful if you want to listen through presets without any arp for example, you'll turn off the arp engine on the current preset, then hold the option (alt) key and click the power button to lock the arp engine off. Now when you scroll through presets the arp engine will be off on all of them. Similarly for fx and/or rhythm.

10 - ADDITIONAL INFO/OPTIMIZATION TIPS

After adding ANALOG STRINGS 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 ANALOG STRINGS. 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 instances of ANALOG STRINGS in a session.

