

HYBRID KEYS

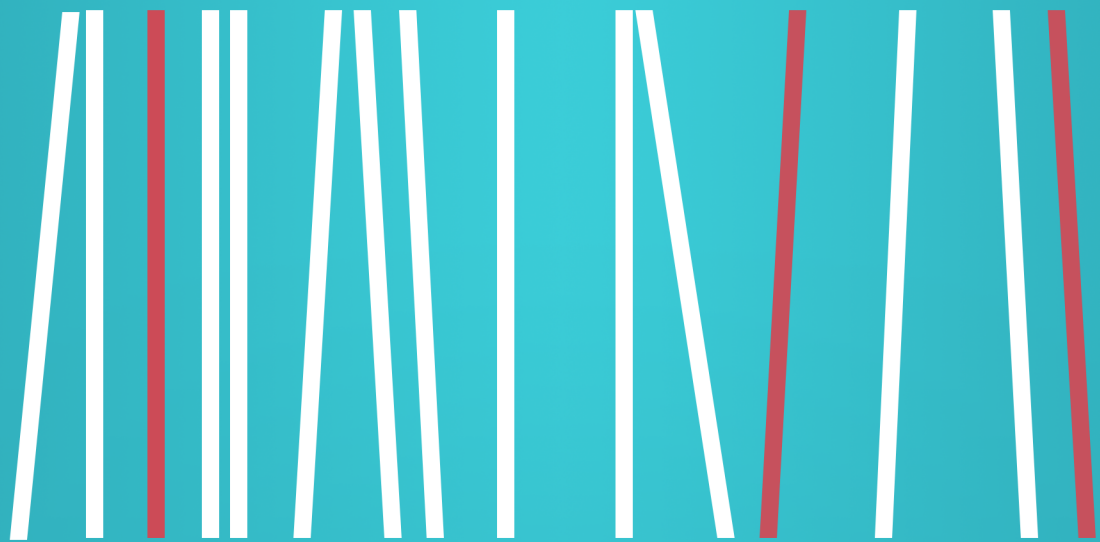


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1. Disclaimer

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2. Welcome to HYBRID KEYS

As part of the KONTAKT Play Series of instruments, HYBRID KEYS offers a unique sound pallet of keyboard-based blends. These hybrid patches combine samples drawn from pianos, organs, harpsichords and more, with synthesizers, mallets and creative effects processing. The result is not of your typical keyboard instrument, rather one that facilitates experimentation and encourages you to explore new areas in sound.

As with all Play Series instruments, HYBRID KEYS aims to combine an intuitive, performance-focused interface with detailed sound editing options. The six macros controls provide quick access to a range of different sound and effects parameters, allowing you to move from nuanced alternations to dramatic sonic shifts.

For those who wish to go deeper in sound design, you will find the powerful range of KONTAKT insert and send effects, and sound editing tools that offer further control over your sound. HYBRID KEYS also contains an analog-style sequencer that can produce complex melodic and rhythmical patterns. Ultimately, these tools aim to provide you with inspiration for your own sound creation and exploration.

Thank you for using HYBRID KEYS and we hope you enjoy it!

3. Document Conventions

In this document the following formatting is used to highlight useful information:

<i>Italics</i>	Indicates paths to locations on your hard disk or other storage devices
Bold	Highlights important names, concepts and UI elements.
[Brackets]	References keys on a computer's keyboard

The following three icons represent different types of information:



The **tick** icon indicates a useful tip, suggestion or interesting fact.



The **exclamation mark** highlights important information that is essential for the given context.



The **warning** icon alerts you of serious issues and potential risks that require your full attention.

4. Installation and Setup

Before you can make music with HYBRID KEYS, you must install and setup the necessary software. Follow these instructions to get started:

Native Access

Native Access is where you will install the software for HYBRID KEYS. If you are new to Native Instruments, you will first have to create your Native ID.

1. Download and install Native Access [here](#).
 2. Login to Native Access using your Native ID.
 3. Click the **Not installed** tab.
 4. Click **INSTALL** for the following products:
 - KONTAKT or KONTAKT PLAYER
 - HYBRID KEYS
- The software is installed automatically.

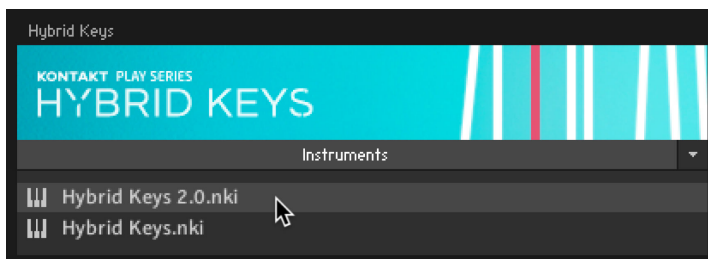
! If the software is already installed, click the **Available updates** tab and check for new updates before proceeding.

✓ To learn more about Native Access, visit our support page [here](#).

HYBRID KEYS via KONTAKT

Once installed, you can start using HYBRID KEYS in KONTAKT. HYBRID KEYS is not an independent plug-in, so you first need to open an instance of KONTAKT or KONTAKT PLAYER:

1. Open KONTAKT as a plug-in in your host software (DAW), or as stand-alone application.
2. Locate **HYBRID KEYS** in the Browser, on the left side of the user interface.
3. Click **Instruments** to open the product's content.
4. Double-click the **Hybrid Keys.nki** file to load the instrument.



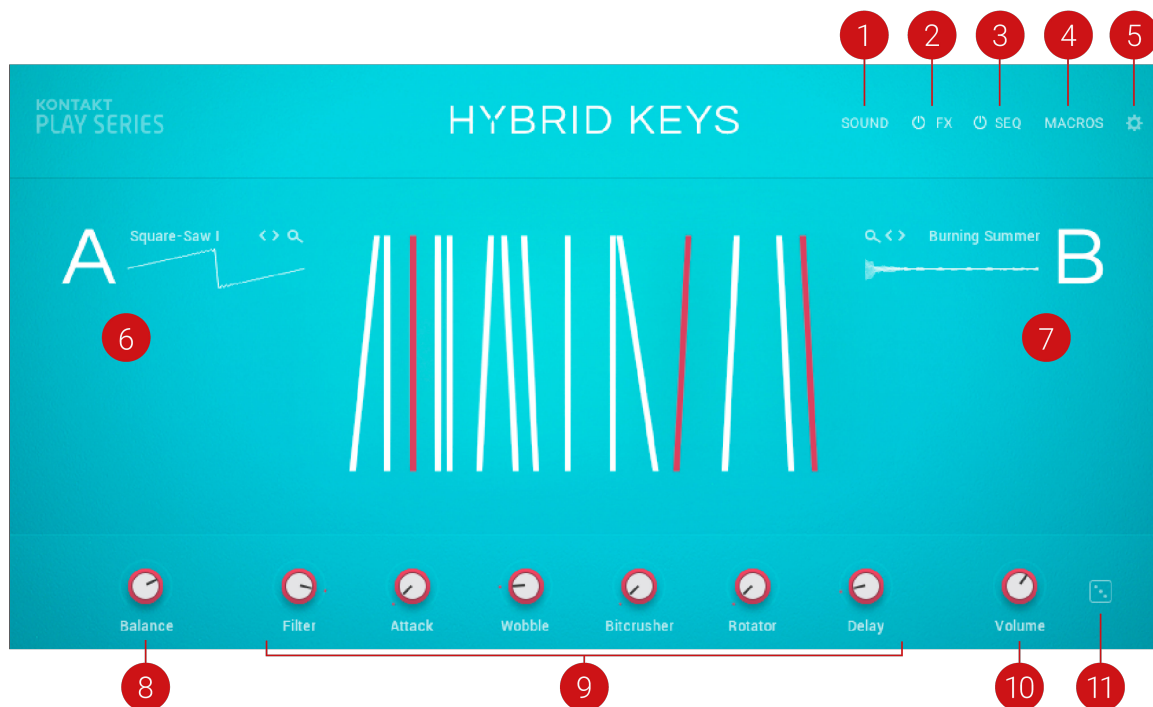
✓ If you are new to KONTAKT and want more information, visit [KONTAKT PLAYER](#) and [KONTAKT](#).

5. Overview of HYBRID KEYS

HYBRID KEYS offers a simple but powerful interface built around two sound source layers and six macro controls. Five additional views—Sound, FX, Sequencer, Macros and Settings—provide further controls and editing options for different parts of the synth engine. The six macros can be assigned to various dedicated sound parameters for instant sound sculpting from any view.

The Sound view covers all sound generating features, including traditional subtractive synthesizer controls and HYBRID KEYS's lo-fi sound-shaping tools. In the FX view, you can create custom effects chains for further tonal control and expression. In the Macros view, you can assign and manage the six macros to suit your . In the Settings view, you can tweak how the synthesizer reacts to your playing style and how notes are prioritized for each layer. Using the sequencer, you can create a 16-step melodic phrase, with velocity modulation for control over dynamics. Six additional sequencing lanes provide further control over the six macros, allowing for precise and nuanced sound design, as well as dramatic and unexpected discoveries.

HYBRID KEYS contains the following key elements and controls:



1. **SOUND:** Opens and closes the Sound view. Here you can edit the individual sound sources (A/B) and access parameters for tuning, filters, effects, envelopes, and modulation. For more information, see [Sound View](#).
2. **FX:** Opens and closes the FX view. Here you can edit effects parameters and the effects chain. Click the power icon next to **FX** to switch all FX on or off. For more information, see [FX View](#).
3. **SEQ:** Opens and closes the Sequencer view. Use the Sequencer to create a melodic sequence of up to sixteen steps, and use the additional six lanes to modulate each of the macro assignments. For more information, see [Sequencer View](#).

4. **MACROS:** Opens and closes the Macros view. Here you can assign macros, set minimum and maximum macro values, adjust the Macro Shaper Curve and change the order of the macro controls. For more information, see [Macros View](#) and [Macro Assignments](#).
5. **SETTINGS** (cog icon): Opens and closes the Settings view. Here you can set Note Priority, Key Range, Glide, Velocity Curve, Voice Preserve, and Bend Range. For more information, see [Settings View](#).
6. **Layer A:** Contains the sound source for layer **A**. Click the letter **A** to turn the layer on or off. Turning the layer off will purge all samples from memory and reduce CPU usage. Click the waveform display to open the Browser and search for a new sound source for layer **A**. For more information, see [Browser](#).
7. **Layer B:** Contains the sound source for layer **B**. Click the letter **B** to turn the layer on or off. Turning the layer off will purge all samples from memory and reduce CPU usage. Click the waveform display to open the Browser and search for a new sound source for layer **B**. For more information, see [Browser](#).
8. **Balance:** Adjusts the volume level of layer **A** and layer **B** by blending between them. Turning the knob left increases the Volume level of layer **A**, and turning it right increases the level of layer **B**. The **Balance** control knob is available in all Snapshots.
9. **Macros 1-6:** Six control knobs are preassigned to the most important parameters, and can be accessed at all times from the bottom panel. Each Snapshot provides a different set of macro assignments that help to define that sound. You can edit different macro assignments in the Macros view. The macro control knobs are available in all Snapshots, however their labels reflect the individual macro assignment of the Snapshot. For more information, see [Macros View](#) and [Macro Assignments](#).
10. **Volume:** Adjusts the main volume level. The **Volume** control is available in all Snapshots.
11. **Randomize** (icon): Applies random changes to the parameters and settings of the current Snapshot. This includes the layers' sound sources, the Balance control, and all macros. Pressing [Ctrl] / [Cmd] + clicking randomizes only the sound sources. Pressing [Shift] + click randomizes only the Balance control and all macros. The Randomize button is available in all Snapshots.

6. Browser

The Browser contains a collection of 125 custom sounds that were produced using analog gear, hybrid sound sources, resampling and high-end processing. The Browser can be used to search and load different sound sources for layers **A** and **B**. Access the Browser by clicking the Browser icon (magnifying glass) in the Sound or Settings view, or via the waveform display in the Main view.

6.1. Browser Overview

The Browser contains the follow features and controls:



- 1. Layer Selection:** Selects the layer of the current Snapshot. Click the letter **A** or **B** to switch between each layer. Once a layer is selected, you can browse and load a different sound for that layer.
- 2. Sound Sources:** Lists the sound sources that are available for each layer. The letter **A** or **B** next to the name of a sound source indicates that it is currently selected for that layer. Click a sound source to select it for the current layer. Double-click a sound source to select it for the current layer and close the Browser.
- 3. Pages:** Provides access to the different pages of the Browser. Click the dot symbols to open the corresponding page of sound sources, or use the arrow icons (<>) to browse through each page.
- 4. X:** Exits the Browser and returns to the Main view.

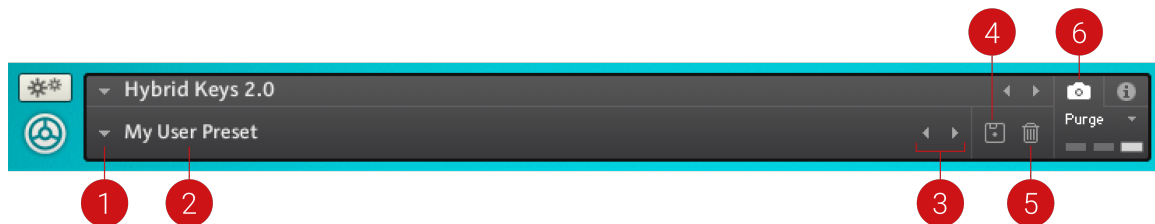
7. Snapshots

HYBRID KEYS contains a collection of Snapshots divided across five categories: Acoustics, Electrics, Mallets, Organs, and Synthy. The Snapshots in HYBRID KEYS have been specially designed and curated to cover an array of styles and sounds keyboard sounds, past, present and future. This selection of presets aims to provide you with inspiration for your own sound creation, whilst showcasing the full range of HYBRID KEYS' synth engine.

When browsing Snapshots, the macros are an effective way to explore the sonic potential of each preset sound. Snapshots are also a useful starting point from which you can tweak and tailor your own sounds. When a User Snapshot is saved, the macro settings, parameter controls, and sequence are also stored within the preset. Using Snapshots, you can create your own preset sounds, save them in the .nksn file format and use them in other projects, across computers or even share them with other users.

7.1. Overview of Snapshots

Snapshots offer a quick and convenient way of browsing for new sounds and saving custom presets. Key features relating to Snapshots include:



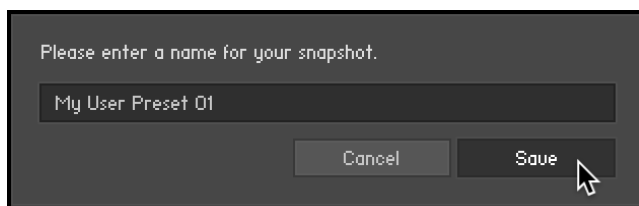
1. **Load Snapshot:** Opens the Snapshot menu where you can load a Snapshot from the **Factory** or **User** library. For more information, see [Loading a Snapshot](#).
2. **Snapshot Name:** Displays the name of the currently selected Snapshot.
3. **Snapshot Previous/Next** (<> icons): Allows you to quickly browse and load Snapshots. Pressing an arrow icon will load the previous or next Snapshot in the selected category. If no Snapshot is active, the first Snapshot on the list will be loaded. For more information, see [Loading a Snapshot](#).
4. **Save Snapshot** (floppy disk icon): Allows you to save changes made to a sound. When a User Snapshot is saved, the macros settings, parameter controls, and sequence are stored within it and can be accessed at any time via the **User** library. For more information, see [Saving a User Snapshot](#).
5. **Delete Snapshot** (bin icon): Deletes the currently selected Snapshot from the **User** library. You can only delete **User** Snapshots and not **Factory** Snapshots. For more information, see [Deleting a User Snapshot](#).
6. **Snapshot View** (camera icon): Provides access to the Snapshot features described above; saving, loading, browsing, and deleting. When **Snapshot View** is selected, configuration settings and features relating to the **Info View** are replaced in the display.

7.2. Saving a User Snapshot

Snapshots can be saved at any time while you are working on them. When a Snapshot is saved, the macro settings, parameter controls, and the sequence are also saved. You can choose to save a sequence separately using the Sequencer Preset Manager and then load it back later to try it out with another sound. For more information, see [Managing Sequencer Presets](#).

To save a Snapshot:

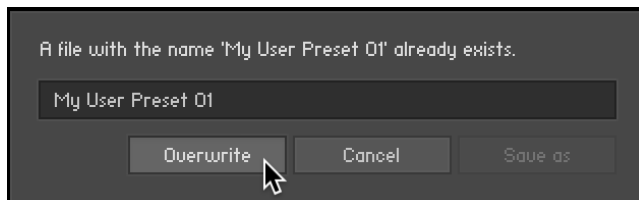
1. Click the Snapshot View button (camera icon) to open Snapshot view.
2. Click the Save button (floppy disk icon).
3. Enter a name for your new Snapshot in the **Save** dialog box.
4. Click **Save** to finish the process and close the dialog box.



→ Your Snapshot .nksn file is saved to the User Snapshot Library. It appears in the **User** Snapshot list.

To overwrite a Snapshot:

1. Click the Snapshot View button (camera icon) to open Snapshot view.
2. Click the Save button (floppy disk icon).
3. Click **Overwrite** to confirm the process.



→ Your Snapshot .nksn file is saved to the User Snapshot Library, in replace of the old file.

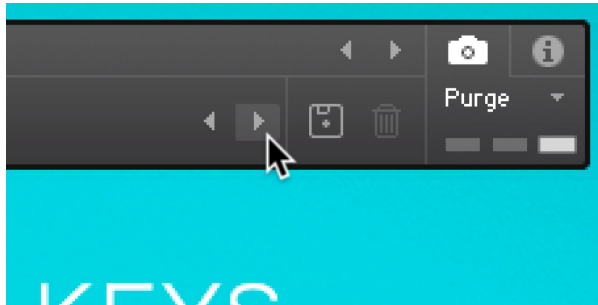
7.3. Loading a Snapshot

Snapshots are loaded from the drop-down menu in the top header of the instrument. You can also use the arrows to the left of the floppy disk icon to load the previous or next preset.

To load and browse Snapshots using the arrows:

1. Click the Snapshot View (camera icon) to open Snapshot view.

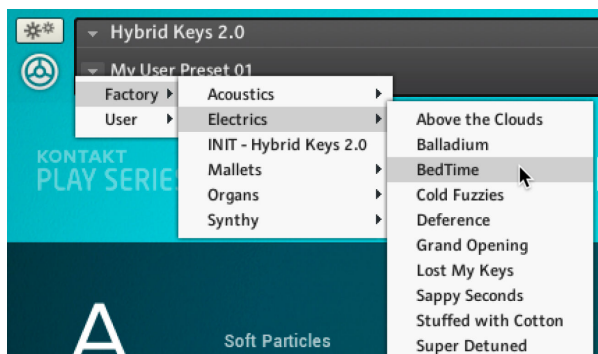
- Click the arrow icons (<>) in the Snapshot header to browse through the Snapshots list.



→ The previous or next Snapshot will load immediately each time an arrow icon is clicked.

To load a Snapshot from the library:

- Click the Snapshot View (camera icon) to open Snapshot view.
- Click the arrow next to the Snapshot name field.
- Select the **Factory** category to load a Factory preset, or select the **User** category to load one of your own snapshots.
- Select an instrument category.
- Click a Snapshot to load it.



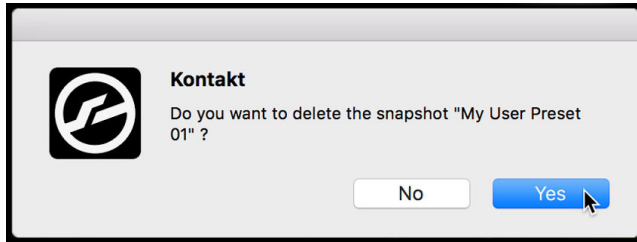
! Note that the **User** category will not appear until you have first saved a Snapshot.

7.4. Deleting a User Snapshot

Snapshots can be deleted using the bin icon in the instrument header. To delete a User Snapshot:

- Click the Snapshot view (camera icon) to open Snapshot view.
- Load the User Snapshot you wish to delete.
- Click the Delete button (bin icon).

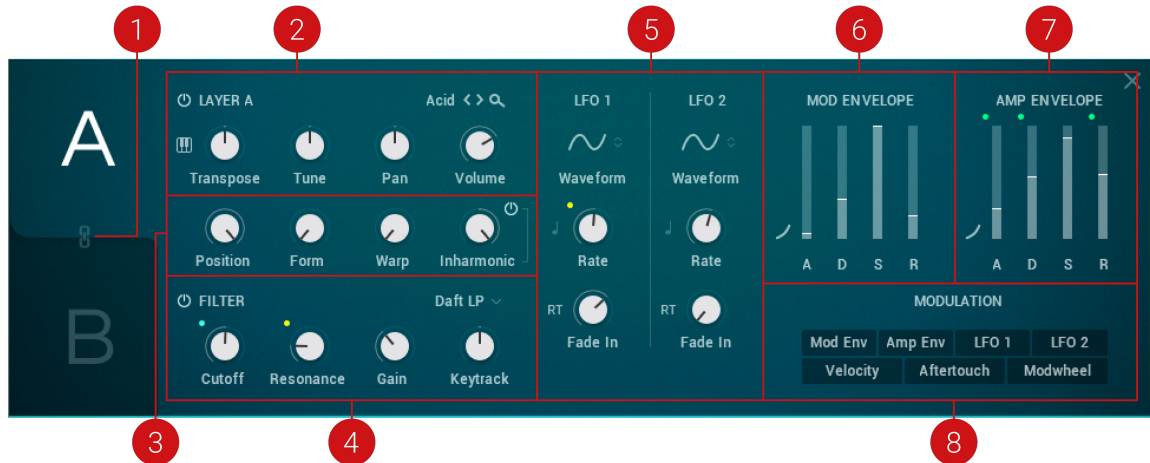
4. Confirm deletion of the Snapshot by selecting **Yes** in the dialog box.



8. Sound View

The Sound view displays all controls related to the selection and editing of your sound sources. You can edit each layer separately, or edit both at the same time using Layer Link.

The Sound view contains the following sections and controls:

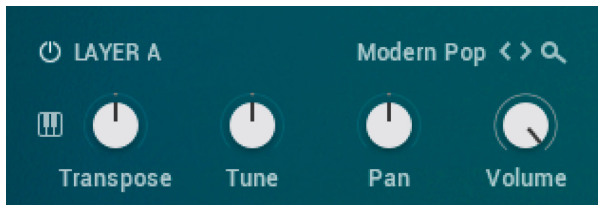


1. **Layer Link:** When activated, this control links both layers and any edits performed in the selected layer will also be applied to the other layer. Press [Ctrl] / [Cmd] + click the **Layer Link** button to instantly set all parameters on the layers to match. Layer linking does not apply when assigning or moving macros, and if one layer uses a sample as the sound source and the other a wavetable, some parameters in the Lo-fi effects section will not be matched because they each use a different set of Lo-fi effects.
2. **LAYER:** This includes all sample settings such as tuning, pan, and volume. For more information, see [Layer](#).
3. **EFFECTS:** Adds various digital artefacts, like quantization noise or aliasing, to your layer. For more information, see [Effects](#).
4. **FILTER:** Adjust the brightness of the sound and determine how this changes across the range of the keyboard. There are a range of filter types available, each providing a different sound characteristic. For more information, see [Filter](#).
5. **LFO:** Provides controls relating to the function and behavior of the two Low-Frequency Oscillators. LFOs produce periodic modulation, which can be used to modulate various parameters in the Sound and FX views. For more information, see [LFO](#).
6. **MOD ENVELOPE:** Adjusts how the modulation is applied to a sound over time. For more information, see [Modulation Envelope](#).
7. **AMP ENVELOPE:** Adjusts how the amplitude of a sound changes over time, from the moment the note is played to its release. For more information, see [Amp Envelope](#).
8. **MODULATION:** Selects a Modulation Source from which you can send modulation to various parameters. Once the Modulation Source is selected, sliders appear next to the available parameters to adjust the amount of modulation applied. For more information, see [Modulation](#).

8.1. Layer

The Layer section sets the foundation of the sound. Here you can select a sound source, set key tracking and adjust the base pitch. Additionally, you can place the sound source in the stereo field and adjust its volume.

The Layer section contains the following controls and settings:



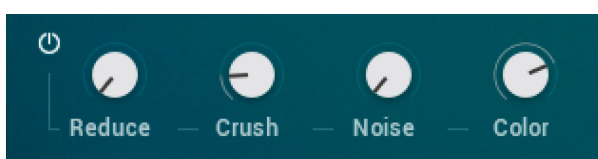
1. **Layer On/Off:** Switches the layer on or off. Click the **Layer On/Off** icon to deactivate the layer, indicated when the icon lights up. Hold [Ctrl] / [Cmd] + click the icon to change the opposite layer from its current state.
2. **Key Tracking** (keyboard icon): Tracks the pitch of incoming MIDI messages. When switched off, middle C will be played regardless of which notes are input, however, this fixed pitch can be changed by using the **Transpose** control. When switched on, the full keyboard range can be played.
3. **Transpose:** Shifts the incoming MIDI notes to transpose the sound source's keyboard range of +/-60 semitones (5 octaves). Press [Alt] / [Opt] and drag to quantize the knob adjustments in octaves.
4. **Tune:** Adjusts the tuning of the sound source in cents in the range of -36/+36 semitones. [Alt] / [Opt] and drag will quantize the adjustments to semitones.
5. **Pan:** Adjusts the panning for the current layer. When the knob is turned left the layer is panned left, and when turned right the layer is panned right.
6. **Volume:** Adjusts the volume for the current layer.
7. **Sound Source Browse:** Click the arrow icons (<>) to step through sounds for the selected layer. Click the Browser icon (magnifying glass) to open the Browser and search from the full list of sound sources. For more information, see [Browser](#).

8.2. Effects

The Effects section provides various effects that can be added to the sample or wavetable sound source. When a sample is selected, the effects add various digital artefacts, like quantization, noise, and aliasing, to your sound layers. When a wavetable sound source is selected, the effects relate to the readout, playback, and harmonic content of the wavetable. These effects ultimately shape the sonic character of the sound sources and contribute significantly to the distinct coloration of the instrument.

Lo-fi Sample Effects

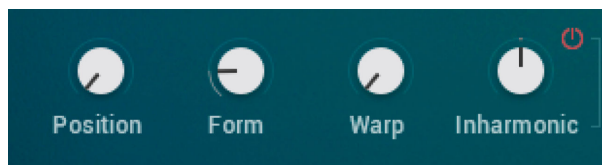
When a sample is selected as a sound source, the following controls are available:



1. **Effects On/Off:** Switches the Effects section on or off.
2. **Reduce:** Re-samples the signal to an adjustable sample rate. The re-sampling is done without any kind of (usually mandatory) low-pass filtering, which causes all kinds of wonderful aliasing artefacts. The sample rate goes all the way down to 50 Hz, which will omit most of the original signal. When the control in the left-most position there is no reduction. Turn the control to the right to reduce the sample rate.
3. **Crush:** Re-quantizes the signal to an adjustable bit depth. Fractional bit levels (such as 12.4 bits) are possible and can add a significant gritty quality to the sound. Audio CDs have a quantization depth of 16 bits, old samplers' frequently used 8 or 12 bits, and 4 bits evoke memories of countless children's toys. When the control is turned fully left, no effect is applied to the signal. Turn the control right to reduce the bit rate.
4. **Noise:** Adds hiss to the audio signal. Turning the control from left to right increases the noise level.
5. **Color:** Adjusts the frequency characteristic of the noise and acts as a low-pass filter. Turn the control from left to right to increase the amount of filtering applied to the Noise parameter.

Lo-fi Wavetable Effects

When a wavetable is selected as a sound source, the following controls are available:



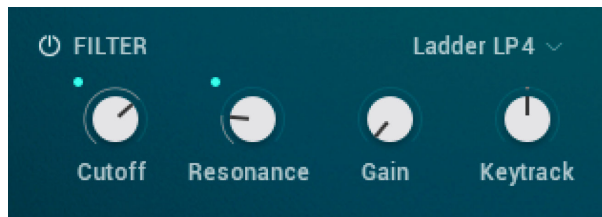
1. **Position:** Morphs between the waveforms included in the loaded wavetable. Modulate this with an LFO for more interesting results.
2. **Form:** Adjusts the amount of waveshaping applied to the phase of the oscillator.
3. **Warp:** Selects one of 14 types of waveshaping that is applied to the wavetable's phase. This fundamentally changes the way the wavetable is read out, therefore bending and warping the resulting waveform.
4. **Inharmonic:** Adds a second oscillator which can be detuned against the first one to produce inharmonic sounds. Turning the control left and right adjusts the amount of detuning in Hertz.
5. **Inharmonic On/Off:** Switches **Inharmonic** on or off. Switching **Inhamonic** off can help reduce CPU load.

8.3. Filter

Filters take the basic, raw sound of the samples and subtracts frequencies, changing the harmonic content and thereby the character of the sound. This change can be varied over time using modulation to produce more dynamic, animated timbres.

HYBRID KEYS offers a range of different filters from KONTAKT, each providing their own unique characteristics, as well as low-pass, notch, high-pass, and band-pass modes.

The Filter section contains the following controls and settings:



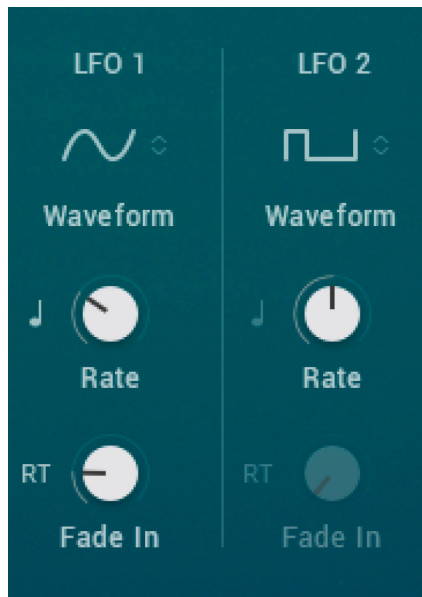
1. **Filter On/Off:** Switches the layer filter on or off. Click the **Filter On/Off** icon to deactivate the filter, indicated when the icon is highlighted.
2. **Filter Type:** Selects a filter type from the drop-down menu. For an overview of each filter type, refer to the KONTAKT 6 Manual, available from the Help menu or online [here](#).
 - Lowpass filters attenuate harmonics and signals above the cutoff frequency.
 - Highpass filters attenuate signals below the cutoff frequency.
 - Bandpass filters attenuate signals above and below the cutoff frequency.
 - Peak/Notch filters are the inverse of a bandpass filter, as they only remove signals around the cutoff frequency, but allows the signals above and below it to pass through. A peak filter is like a very narrow Bandpass.
 - Multi filters offer a selection of filter types in either parallel or serial routings.
 - Vocal/Formant filters emulate various resonances of the human vocal tract rather than focus on completely subtracting parts of the frequency spectrum.
3. **Cutoff:** Allows certain frequencies of the sound source to be heard while others are filtered out. The frequencies that are filtered out will depend upon the filter type you have selected.
4. **Resonance:** Increases the amplitude around the cutoff frequency. Using this allows you to boost the narrow band of frequencies.
5. **Gain:** Boosts the output of the filter, making it possible to add makeup gain to the post-filter signal level or even overdrive the filter output and add harmonic distortion.
6. **Keytrack:** Sets the amount of modulation from the keyboard to the filter's cutoff frequency. In simple terms, setting a value here means that the higher the note played on the keyboard, the more the filter opens. This adds 'brightness' to a sound as higher notes are played, which is useful in replicating the typical behavior of acoustic instruments.

8.4. LFO

LFOs are special-purpose oscillators that produce frequencies below the range of human hearing. They are typically used for periodic modulation or producing changes in sound, such as vibrato (periodic pitch modulation) and tremolo (periodic volume modulation). In HYBRID KEYS, the LFOs can be assigned to a variety of controls to make periodic changes to parameters over time.

HYBRID KEYS has two LFOs that produce a variety of waveforms, and can be free-running or synced to the host tempo and retriggered on key press. Each LFO can be assigned to multiple parameter controls. This can be easily achieved by selecting one of the two LFOs in the Modulation section. Once selected, all possible modulation destinations are highlighted, and the intensity is adjusted using the **Modulation Amount** sliders. For more information on applying modulation, see [Modulation](#).

The LFOs contain the following controls and settings:

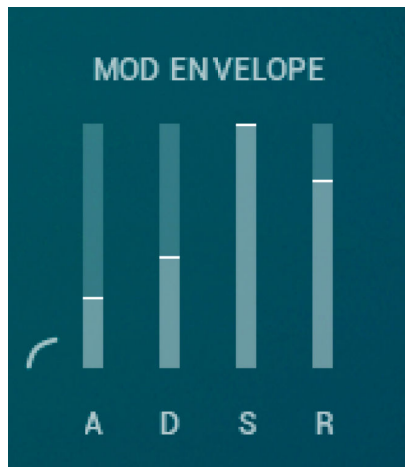


1. **Waveform:** Selects the waveform for the LFO. The available waveforms are Sine, Triangle, Sawtooth, 5% Pulse, 15% Pulse, 25% Pulse, 33% Pulse, Square, 66% Pulse, 75% Pulse, 85% Pulse, 95% Pulse, Random, Multi.
2. **Tempo Sync:** Synchronizes the speed of the LFO to your host tempo, or an external MIDI clock. When **Tempo Sync** is on, the **Rate** control will display how many notes of this value will make up the duration of one cycle. When inactive, the **Rate** control operates in Hz rather than rhythmic divisions.
3. **Rate:** Adjusts the frequency of this LFOs output signal in Hz (cycles per second). Values range from 0.01 Hz (one cycle in 100 seconds) to around 210 Hz.
4. **RT (Retrigger):** When activated, the LFO waveform will be restarted at the same position each time a note is received. When inactive, the LFO will run, without reacting to incoming notes.
5. **Fade In:** If this value is greater than zero, the LFO will not start the waveform immediately when a note is received, but rather smoothly ramp it up over a time of up to 10 seconds. This parameter is only available when **RT** is activated.

8.5. Modulation Envelope

The Modulation Envelope is used to shape the contour of the destination over time by giving you control over its attack, decay, sustain, and release stages. It provides flexibility by allowing you to freely assign it to multiple destinations at once and control the amount of modulation applied. Additionally, the Modulation Envelope provides additional control for defining its attack curve.

The Mod Envelope contains the following controls:

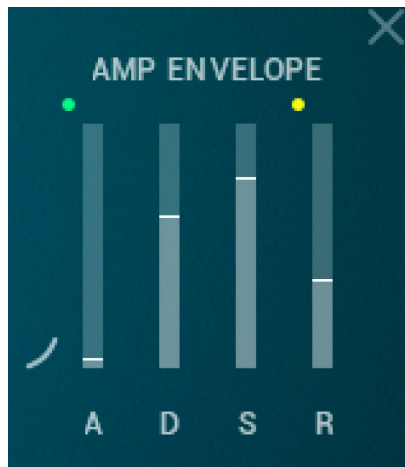


1. **Attack Curve:** Defines the shape of the attack portion of the envelope. Use in combination with the **A** (Attack Time) to define how the modulation starts after a key is pressed. Click and drag the curve upward or downward to change its shape.
2. **A (Attack Time):** Adjusts the time it takes once a key is pressed, for the envelope to reach the peak level. This control can be used to create modulation with a fast or slow fade-in. Turned fully left, the envelope will start immediately.
3. **D (Decay Time):** Adjusts the time it takes for the envelope to fall from the attack's maximum level to the level defined by the **Sustain** control. Turning the knob right increases the **Decay Time**.
4. **S (Sustain Level):** Sets the modulation level that the envelope remains at while the key is held down, after the **Decay Time** has expired.
5. **R (Release Time):** Adjusts the amount of time it takes for the envelope to fall from the set **Sustain Level** and fade to zero, once the key is release. It can be used to create modulation with a short or long fade-out.

8.6. Amp Envelope

The Amp Envelope has a dedicated, four-stage envelope generator that is used to shape the contour of the volume of a sound over time by giving you control over its attack, decay, sustain, and release stages. Additionally, the Amp Envelope provides additional control for defining its attack curve.

The Amp Envelope contains the following controls:



1. **Attack Curve:** Defines the shape of the attack portion of the envelope. Use in combination with **A** (Attack Time) to define how the sound starts after a key is pressed. Click + drag the curve upward or downward to change its shape.
2. **A (Attack Time):** Adjusts the time it takes once a key is pressed, for the volume to climb from zero to full volume. It can be used to create a sound with a slow fade-in.
3. **D (Decay Time):** Adjusts the time it takes for the volume to fall from its initial full volume to the level set by the **Sustain** control, while a key is held down.
4. **S (Sustain Level):** Sets the volume level that the envelope remains at while the key is held down, after the Decay Time has expired.
5. **R (Release Time):** Adjusts the time it takes for the volume to fall from the **Sustain Level** to zero once the key is released. It can be used to create sounds that have a short or long fade-out.

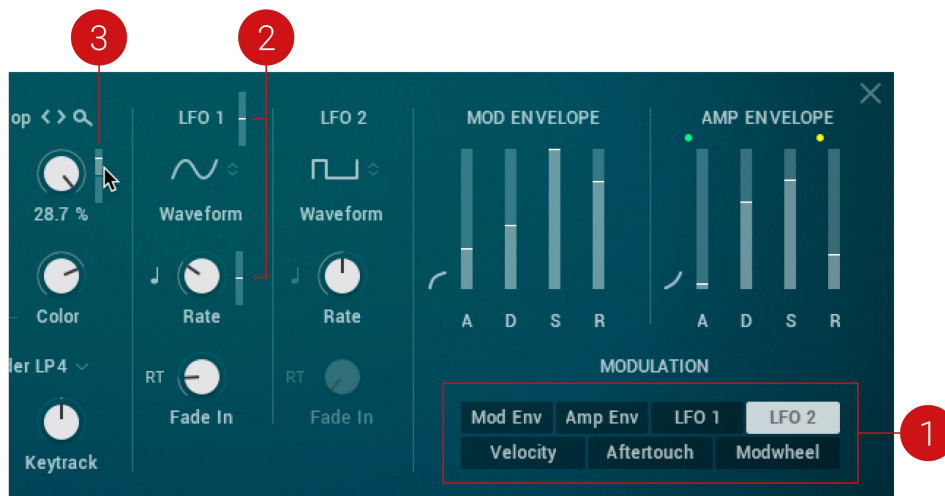
8.7. Modulation

Modulation adds movement to your sound by changing parameters over time. When you apply modulation to controls, the controls change their value according to the shape of the modulation signal. The modulation section allows you to select the source of your modulation and then add an amount to the destination.

There are many sources for modulation, one of the most basic being an envelope. When triggered by a note event, the envelope produces a single contour that can be used to change controls over the course of a note. Likewise, LFOs provide a periodic change at a set rate.

Modulation can also be applied manually by using Velocity, Aftertouch or a Modwheel as the source. This allows you to be expressive and add movement, dynamics, and variation to a sound while you're playing. For example, you could set the modulation wheel on your keyboard as the source to control the Effects or use Velocity to control the amount of filter Cutoff.

The Modulation section contains the following controls:



1. **Modulation Source:** Selects a target source from the seven **Modulation Sources** that allows you to apply modulation to various other parameters. The Modulation Sources include a Mod Envelope, Amp Envelope, LFO 1, LFO 2, Velocity, Aftertouch and Modwheel. Hold [CTR] / [CMD] + click the **Modulation Source** button to reset all modulation assignments to their default value.
2. **Modulation Sliders:** When a **Modulation Source** has been selected, sliders appear next to the relevant parameter controls that are available for modulation.
3. **Modulation Amount:** Use the sliders to set the amount of modulation applied to a parameter. This determines the strength of the modulation applied from the selected **Modulation Source**. Click + drag the mouse up and down to set the amount. The value range is -100% to 100%.

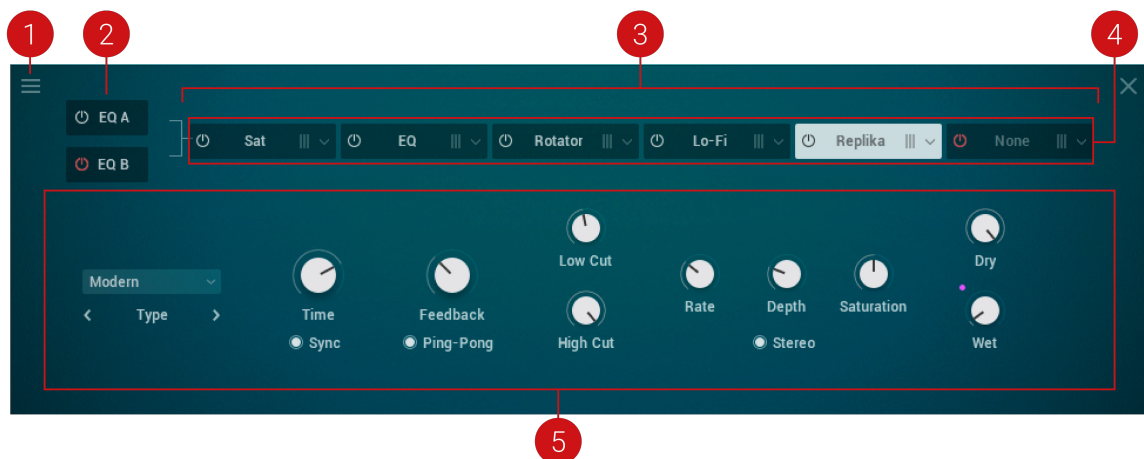
9. FX View

HYBRID KEYS features a range of powerful KONTAKT effects that can be loaded into six FX unit slots and applied globally to both layers. From classic time-based effects like reverb, delay and chorus, to dynamic effects, saturation, amp emulations and more, the FX view encourages creativity and allows you to further define the character of your sound.

In the FX view, you can access the various parameter controls and settings relating to the FX units, FX chain and FX presets. Using the parameter controls you can alter the effects chain of any preset and build custom effects chains for your own user presets. Browse and replace effects from the dropdown menus, and quickly change the order of the FX chain by dragging an FX unit to another position. Both layers A and B have their own EQ, which can be bypassed using the power buttons. Additionally, you can assign parameters of the loaded effects to any of the macro controls. For more information, see [Macros View](#).

9.1. Overview of the FX View

The FX view contains the following elements and controls:

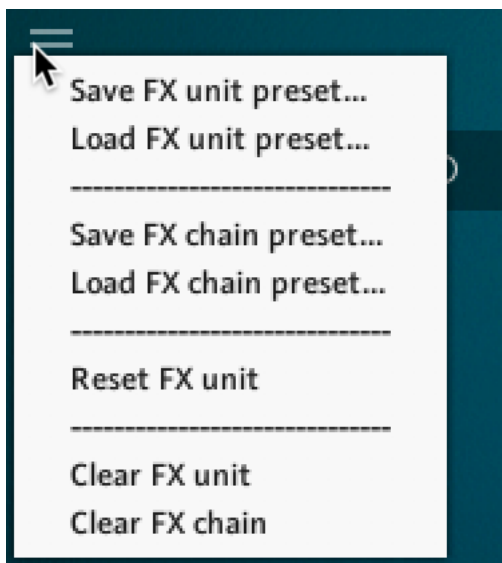


1. **FX Preset Menu:** Enables you to save and load your effects unit presets, your effects chains and quickly initialize either an effects unit or effects chain. For more information see, [Managing FX Presets](#).
2. **Layer A/B EQ:** Selects the equalizer for Layer A or B. Equalization, or EQ for short, means boosting or reducing (attenuating) the levels of different frequencies in a signal. When an EQ is selected the controls for the equalizer appear below and the settings for each frequency band (low, low mid, high mid and high) and their respective gain can be adjusted. Q allows you to attenuate or boost a very narrow or wide range of frequencies within each EQ band.
3. **FX Chain:** Represents the effects chain i.e., the order of the effects for both layers which run in series. You can change the order of the effects by clicking + dragging an FX unit left or right.
4. **FX Units:** Represents each effect within the **FX Chain**. Switch the effect on or off by clicking the power button. Use the drop-down menu on the right of each unit to load an effect. The controls for the selected FX unit are displayed below. For more information on the effects, refer to the KONTAKT manual. Its available from the Help menu or the Native Instruments [website](#).

5. **FX Parameter Controls:** Displays the parameter controls for the selected FX unit. Each effect has its own range of controls and settings that are specific to its function and behavior. For more information on the effects and their related controls, refer to the KONTAKT manual, available from the Help menu or the Native Instruments [website](#).

9.2. Managing FX Presets

While FX settings are automatically saved with each snapshot, the **FX Preset Management** allows you to save FX unit and FX chain presets separately, and load them onto other sounds. Other features include a clear function that removes the loaded FX unit or FX chain, and an option to reset an FX unit to its default values.



The following workflows demonstrate how to save, load, reset and clear your FX units and chains:

Saving an FX Preset

To save an FX preset:

1. Click **FX** to enter the FX view.
 2. Click the FX Preset Management icon in the top left corner.
 3. Select **Save FX unit preset...** or **Save FX chain preset...**
 4. Enter a name for your preset.
 5. Click **Save**.
- The FX preset is saved as an .nka file.



Any macro assignments made to effects parameters are not stored in the effects unit or effects chain presets.

Loading an FX Preset.

To load an FX preset:

1. Click **FX** to enter the FX view.
 2. When loading an FX unit preset, first select the target FX unit slot in the chain.
 3. Click the FX Preset Management icon in the top left corner.
 4. Select **Load FX unit preset...** or **Load FX chain preset...**
 5. Select a preset file.
 6. Click **Load**.
- The FX preset is loaded in to the selected FX unit or the FX chain.



Loading an FX preset will overwrite any current user preset being used with the snapshot.

Resetting an FX Unit

To reset an FX unit:

1. Click **FX** to enter the FX view.
 2. Select the FX unit you want to reset.
 3. Click the FX Preset Management icon in the top left corner.
 4. Select **Reset FX unit**.
- The FX unit is restored to its default settings.

Clearing FX

To clear an FX unit or FX chain:

1. Click **FX** to enter the FX view.
 2. Select the FX unit or FX chain you want to clear.
 3. Click the FX Preset Management icon in the top left corner.
 4. Select **Clear FX unit** or **Clear FX chain**.
- The loaded FX is removed and **None** will be displayed in the FX unit(s).



A few parameters require some processing latency so they will not respond in real-time. These are Cabinet/IRVerb Size, HPF and LPF.

10. Sequencer View

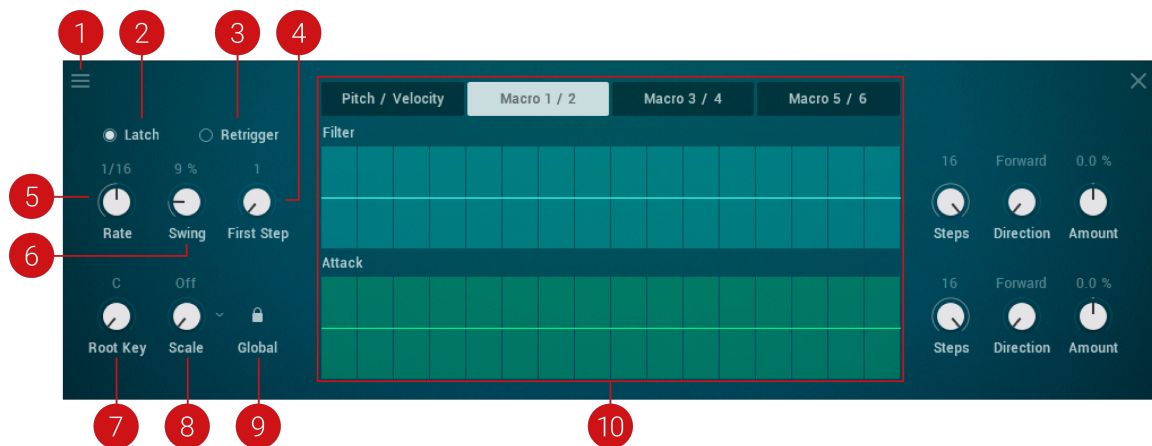
HYBRID KEYS replicates the power and functionality of an analog sequencer. Accessed via the **SEQ** tab, the sequencer provides one lane for creating a melodic sequence of up to sixteen steps, and a further six lanes to modulate each of the macro controls and its respective assignments. These additional sequencing lanes allow you to shape your sound with precision and nuance over the course of a sequence.

Sequencing the pitch means you can create a musical phrase, and then modulate the velocity of each step to change the dynamics of the sound. Additionally, the velocity of the modulated steps can be set to change relative to how hard you play, using the Scale by Velocity feature in the Settings view. For more information, see [Settings View](#).

The sequencer can be set to affect only one layer, or both layers together. Additional parameters like **Rate**, **Direction**, and **Swing** provide further flexibility and control over the playback of your sequences.

10.1. Overview of the Sequencer

The Sequencer contains the following controls that are available at all times and apply to all sequencer lanes (Pitch/Velocity and Macros 1–6):

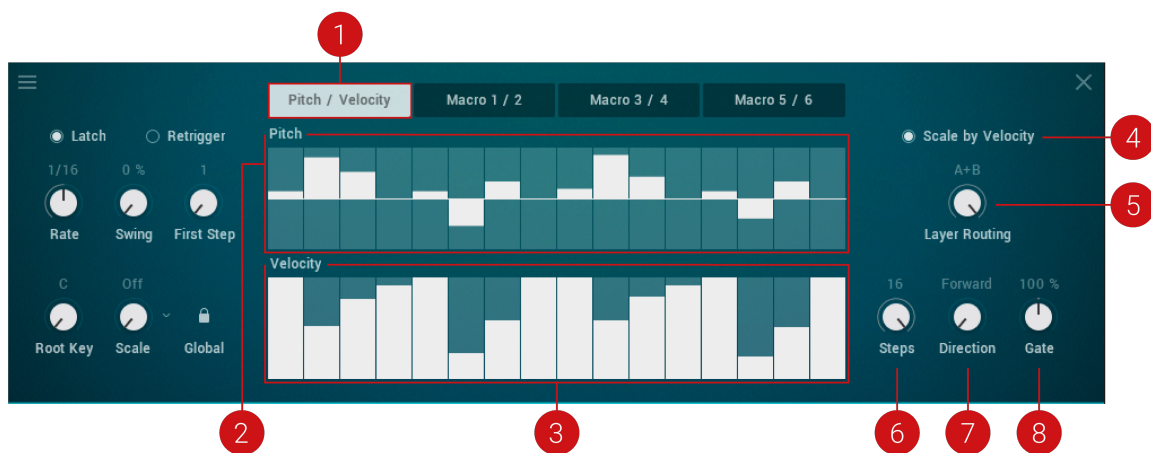


1. **Sequencer Preset menu:** Use this menu to save and load sequencer presets, and initialize sequencer lanes. For more information see, [Managing Sequencer Presets](#).
2. **Latch:** Latches the sequencer on or off. When Latch is on, the sequencer will run continuously from a single note trigger. Notes played will continue to play until the sequencer or Latch is turned off. Pressing a new note will transpose the sequence relative to the new note value.
3. **Retrigger:** Switches retrigger on or off. When **Retrigger** is on the sequencer restarts every time a new note is played.
4. **Rate:** Sets the playback rate of the sequencer relative to the DAW/host tempo (in BPM) and is adjustable in specific note values.
5. **Swing:** Sets the sequencer swing amount. Turning the **Swing** knob to the right to increases the amount of swing added to the sequence.
6. **First Step:** Sets the starting step of the sequence when it is retriggered.

7. **Root Key:** Sets the root key of the sequencer.
8. **Scale:** Sets the scale of the sequencer. Turn the control or use the drop-down menu to select a scale.
9. **Global:** Sets the sequencer scale lock on or off. When activated, the currently selected scale type and its root key will be used for all Snapshots.
10. **Sequence Lanes:** Displays the individual sequence lanes for the selected set of controls.

10.2. Pitch and Velocity

The following controls are displayed when the **Pitch / Velocity** tab is selected in the Sequencer view:

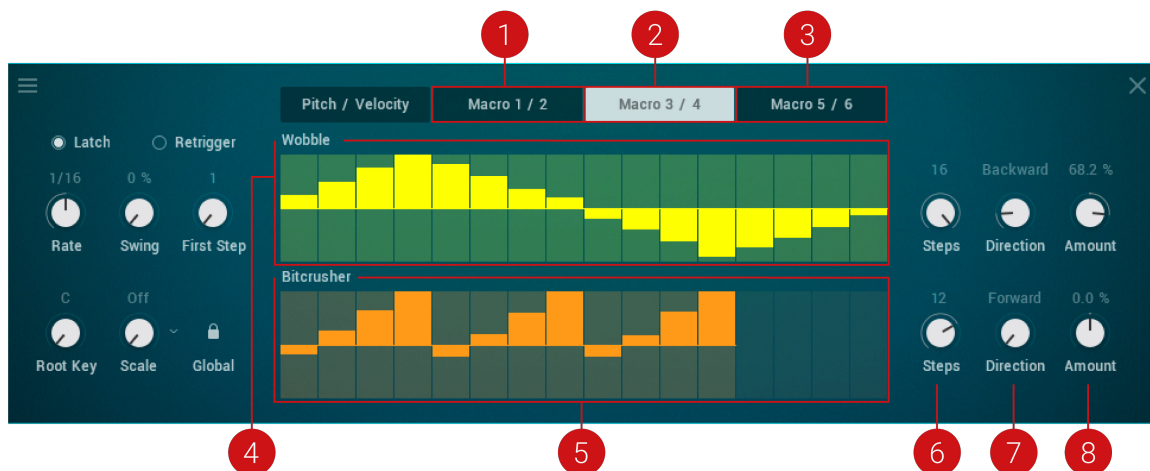


1. **Pitch / Velocity** tab. Displays the pitch and velocity sequencing lanes where you can enter notes and velocity levels.
2. **Pitch Sequence Lane:** Sets the offset for the pitch. The range is +/- 2 octaves.
3. **Velocity Sequence Lane:** Sets the offset for the velocity. The range is 0–127. A value of 0 results in no note being triggered for that step, even if there is a value already set in the pitch lane.
4. **Scale by Velocity:** Switches the Scale by Velocity on or off. This function scales the note velocity of the sequence with input velocity that is played via a keyboard or MIDI device.
5. **Layer Routing:** Sets which layers are affected by the pitch sequencer. Turn the control to route the pitch sequence to a layer. The available options are as follows:
 - **None:** Plays no layers.
 - **A:** Plays only layer A.
 - **B:** Plays only layer B.
 - **A+B:** Plays both layers A and B. The balance of the layers can be adjusted using the **Balance** macro knob on the far-left.
6. **Steps:** Sets the sequence length in steps. Click and drag the mouse up or down to adjust the number of steps.

7. **Direction:** Sets the direction of the sequencer. Click and drag the mouse up or down to adjust the direction of the sequence. The available options are in the following order:
 - **Forward:** This is the default playback direction. The sequence plays forward from left to right.
 - **Backward:** The sequence plays in reverse, beginning with the final note of the sequence.
 - **Fwd > Bwd** (Forward-Backward): The sequence plays forward in its entirety, then backward in its entirety.
 - **Bwd > Fwd** (Backward-Forward): The sequence plays backward in its entirety, then forward in its entirety.
 - **|Fwd > Bwd|** (Forward-Backward with repeating edge notes): The sequence plays forward in its entirety, then backward in its entirety with repeating edge notes.
 - **|Bwd > Fwd|** (Backward-forward with repeating edge notes): The sequence plays backward in its entirety, then forward in its entirety with repeating edge notes.
 - **Random:** The sequence plays in continuously varying random order.
8. **Gate:** Sets the note sequence gate length (scales to a percentage of the sequencer rate value).

10.3. Macros

The following controls appear when a **Macro** tab is selected in the Sequencer:

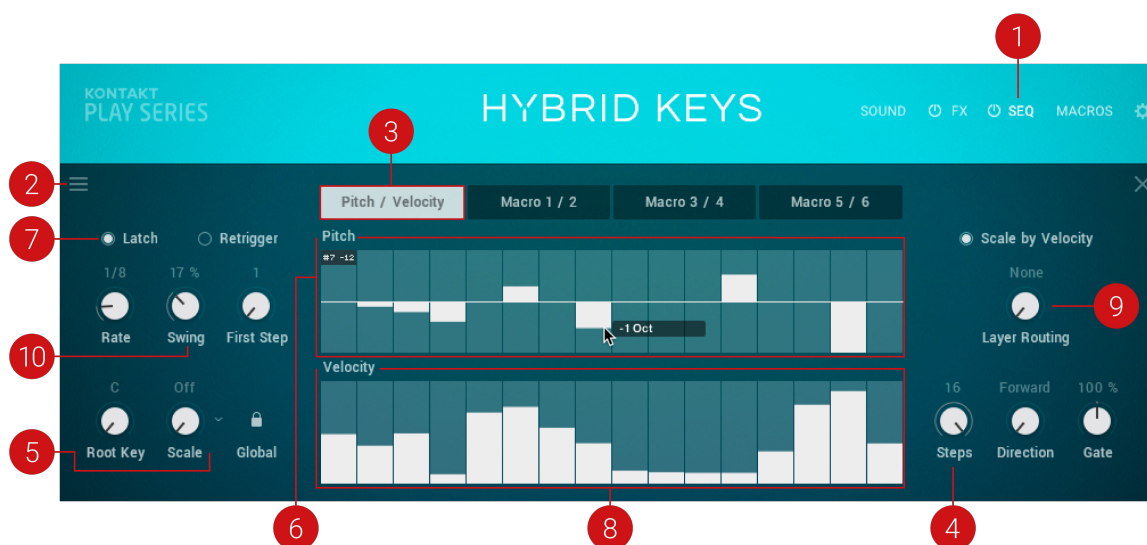


1. **Macro 1 / 2 :** In the sequencer lanes that appear you can add modulation for up to 16 steps.
2. **Macro 3 / 4 :** Displays the sequence lanes for Macros 3 and 4. In the sequencer lanes that appear you can add modulation for up to 16 steps.
3. **Macro 5 / 6 :** Displays the sequence lanes for Macros 5 and 6. In the sequencer lanes that appear you can add modulation for up to 16 steps.
4. **Macro Sequence Lane:** Draw in the modulation amount for the corresponding macro. Press [Ctrl] / [Cmd] + click any step to reset any its current modulation value.
5. **Macro Sequence Lane:** Draw in the modulation amount for the corresponding macro.
6. **Steps:** Sets the sequence length of the corresponding macro in steps. Click + drag the mouse up or down to adjust the number of steps.
7. **Direction:** Sets the sequence playback direction for the corresponding macro. The options are the same as listed for the Pitch and Velocity controls above.

8. **Amount:** Sets the sequence modulation amount for the corresponding macro. Press [Ctrl] / [Cmd] + click to disable this macro sequencer. Press [Alt] / [Opt] + click to set the amount to the maximum positive value, or press [Ctrl] / [Cmd] + [Alt] / [Opt] + click to set the amount to the maximum negative value.

10.4. Sequencing Pitch

Using the sequencer you can create a musical phrase of up to 16 steps long. Each step has a range of +/- two octaves from the root note. The root note is equal to the note information received from your keyboard, MIDI device or DAW. A sequence is automatically transposed relative to any new note that's played. For greater range, use the Transpose Up or Transpose Down buttons on your keyboard.



To sequence pitch:

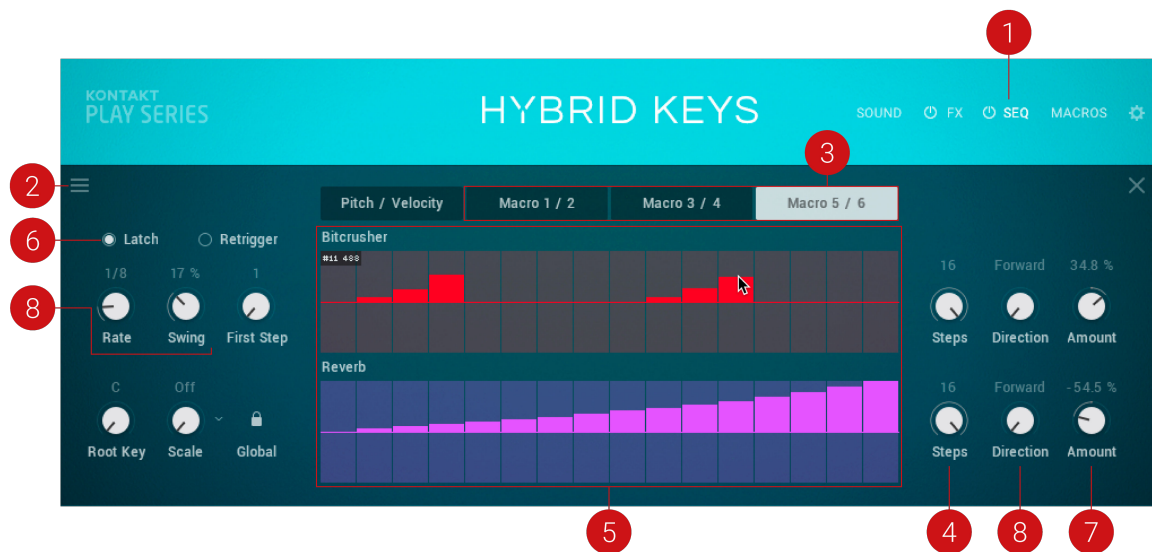
1. Open the sequencer by clicking **SEQ** in the top-right header.
2. If your snapshot already contains a sequence, you can initialize it using the Sequencer Preset menu, see [Managing Sequencer Presets](#).
3. Select the **Pitch / Velocity** tab to open the Pitch and Velocity Sequence lanes.
4. Set the number of steps for your sequence by adjusting the **Steps** value. The default setting is 16.
5. Set the **Root Key** and **Scale** for your sequence.
6. To add a pitch value to each step of the sequence, click + drag the mouse upwards or downwards from the horizontal line in the middle. The horizontal line represents the root note of the pitch played. To add note values in semitones above the root note, click + drag upwards. To add values below the root note, click + drag the mouse downwards. As you drag upwards or downwards, the distance from the root note is indicated in semitones and octaves and displayed on the interface.
7. Turn on **Latch** and trigger a note to hear the sequence play. With **Latch** activated, the sequencer will run continuously from a single trigger, freeing up your hands to adjust and fine-tune the pitch values for each step.
8. Adjust the **Velocity** amount for each step to change the dynamics of the sound. By default, all steps are set to full **Velocity**. Drag the mouse down to decrease the **Velocity** amount for the selected step.

9. Optionally, you can decide if the sequence affects layer A, layer B or both layers using the Layer routing control on the right-hand side. You can adjust this at any time.
10. Experiment with the **Swing** control.
11. When you are satisfied with your sound you can save it as a User snapshot or as a separate Sequencer Preset. For more information, see [Saving a User Snapshot](#) and [Managing Sequencer Presets](#).

10.5. Sequencing Macros

In addition to sequencing notes, you can also sequence Macros. These are the six knobs along the bottom of the instrument used to control the preassigned parameters that work best with the selected Snapshot. By sequencing the Macros you can change the sound of the Snapshot over time to create interesting textures and movement when the sequence is triggered. As when sequencing notes, you can also set each Macro to have a different playback length and direction for more complex modulation patterns.

The Macros are present in pairs but each Macro has its own individual sequence lane where modulation values can be added for each step of the sequence.



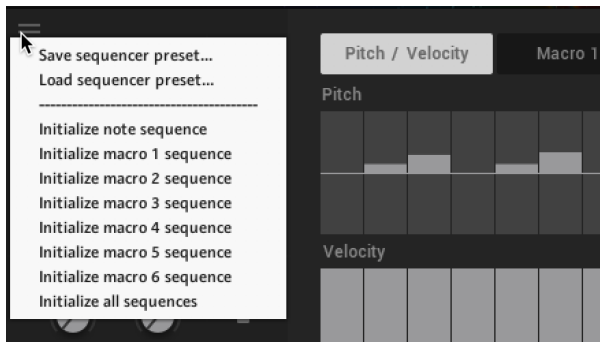
To sequence a Macro:

1. Access the sequencer by clicking **SEQ** in the top-right header.
2. If your Snapshot already contains a sequence, you can initialize it using the Sequencer Preset Management menu, see [Managing Sequencer Presets](#).
3. Select the sequence lane of the macro you want to sequence, for example, if you want to sequence the fifth macro, select the **Macro 5 / 6** tab. In this example, the horizontal sequencing lanes for Macros 5 and 6 open with the sequencing lane for Macro 5 appearing at the top.
4. Set the number of steps you would like to sequence by adjusting the **Steps** value on the right. Setting a different number of steps for each macro can create interesting tonal polyrhythms.
5. To add a parameter modulation value to a step, click + drag the mouse upwards from the horizontal line in the middle to add positive values, or click + drag the mouse downwards to add negative values.

6. Turn on **Latch** and trigger a note to hear the sequence play. With **Latch** activated, the sequencer will run continuously from a single trigger, freeing up your hands to adjust and fine-tune the modulation values for each step.
7. Adjust the modulation **Amount** to determine how much the sequence affects the macro control. Dragging the knob left decreases the modulation amount, and dragging it right increases the amount.
8. Optionally, to create more diverse patterns, experiment with the **Direction** controls. For more information on these controls, see [Overview of the Sequencer](#).

10.6. Managing Sequencer Presets

While sequences are automatically saved with each Snapshot, the **Sequencer Preset Management** allows you to save sequences separately and load them onto other sounds. Additionally, the menu provides an initialization function that enables you to reset any part of a sequence to the default values.



The following workflows demonstrate how to use Sequencer Preset Management to save, load and initialize your sequences.

Saving a Sequence

To save a sequencer preset:

1. Click **SEQ** to enter the Sequencer view.
2. Click the Sequencer Preset Management icon in the top left corner.
3. Select **Save sequencer preset...**
4. Enter a name for your sequence.
5. Click **Save**.

Loading a Sequence

To load a sequencer preset:

1. Click **SEQ** to enter the Sequencer view.
2. Click the Sequencer Preset Management icon in the top left corner.
3. Select **Load sequencer preset...**
4. Select a sequence file.
5. Click **Load**.

 Loading a sequence will overwrite any current user sequence being used with the Snapshot.

Initializing a Sequence

To initialize all or any part of a sequence:

1. Click **SEQ** to enter the Sequencer view.
2. Click the Sequencer Preset Management icon in the top left corner.
3. To reset all note values, select **Initialize note sequence**.
4. To individually reset any of the macro sequences, select **Initialize macro 1–6 sequence**
5. To reset the whole sequence (note values and all macros), select **Initialize all sequences**.

11. Macros View

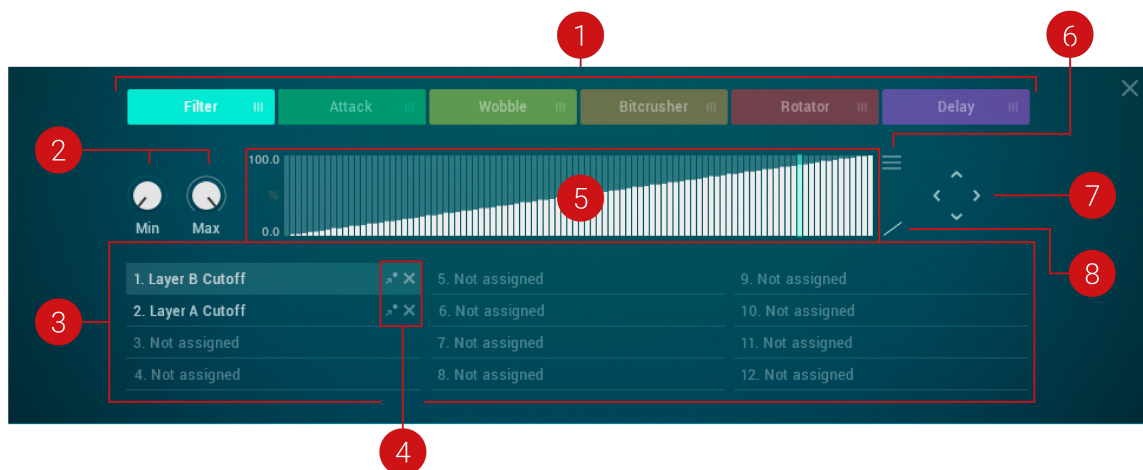
The six macro controls are a core element to the Play Series performance style and workflows. The macro controls, alongside the Balance and Volume knobs, are the only parameters that remain accessible from any view within HYBRID KEYS. You can assign up to 12 parameters to each macro, with separately adjustable min/max range for each assignment, and a Shaper Curve that governs how the macro behaves within the defined min/max range. The Shaper Curve is also available for each assigned parameter.

The Snapshots that were created for HYBRID KEYS each come with their own distinct macro assignments and implementations. In the Macros view, you can edit the assigned macro controls of existing snapshots and their parameter ranges or create your own macro assignments.

In the Macros view, toggle between the six macros by clicking the colored buttons displayed horizontally across the top of the view. Clicking any of the buttons allows you to see the list of parameters assigned to them. Located to the top-right of the Shaper Curve is the Macro Shaper Options menu. This provides various processing and editing options, as well as ways to manage your preset shapes.

11.1. Overview of the Macros

The Macros view contains the following elements and controls:



- 1. Macro Controls:** Each colored block represents a macro control. Click on a macro to display the group of parameters assigned to it and access the parameters' editing tools. Click + drag a colored block left or right to rearrange the order of the six macro controls. For more information, see [Macro Assignments](#).
- 2. Macro Range:** Sets the minimum and maximum range for the parameter selected in the Macro Slot list.
- 3. Macro Slot List:** Displays all parameters assigned to the selected macro control. Each macro has 12 macro slots, facilitating up to 12 different parameter assignments per macro. Click on a macro slot to access the editing options for that assignment, including the Macro Shaper Curve and Range controls.

4. **Macro Assignment** (icons): The arrow dot icon jumps directly to the view containing the parameter assigned to the macro slot. The dot next to the parameter will blink to draw attention and indicate the assignment. The **X** icon deletes the assigned parameter from the selected macro.
5. **Macro Shaper Curve**: Sets the shape of the curve for the selected parameter in the Macro Slot list.
6. **Macro Options Menu**: Provides options to manage your Macro Shaper presets, and contains predefined curve shapes which you can quickly recall for convenience or inspiration. For more information, see [Macro Options Menu](#).
7. **Macro Shaper Shift** (arrow icons): Click the arrow icons to shift the values in the Macro Shaper Curve left, right, up or down. Press [Shift] + click the left or right arrows to move the values in the specified direction, but to retain the first or last value in the table. This creates a limiter-style effect, whereby the first value is repeated as you press [Shift] + click the right arrow. Holding [Shift] + clicking the up or down arrows will create expansion or compression. Pressing [Ctrl] / [Cmd] + clicking will repeat the process ten times.
8. **Macro Shaper Smoothing**: Switches the interpolation for the Macro Shaper Curve on or off. As the Macro Shaper contains only 100 values and macro knobs have a much higher resolution of 1,000,000 values, the shaper curve needs to be mapped to the larger range. When **Macro Shaper Smoothing** is turned off, transitions between curve steps are strictly quantized. This is useful in certain use cases, for example, a macro assigned to the **Tune** parameter, and a quantized Curve Shaper to hit various pitches of a scale. When **Macro Shaper Smoothing** is turned on, transitions between curve steps are linearly interpolated, which provides more fluid behavior. This is especially useful when assigning macros to a filter **Cutoff** or various effects parameters.

11.2. Macro Assignments

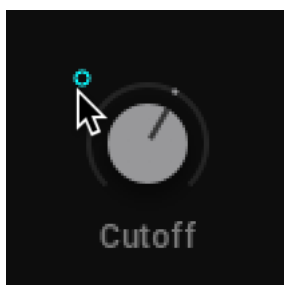
Assigning macros in HYBRID KEYS is intuitive and easy. Not all parameters are available for assignment, including buttons, menus, Transpose, and Envelope Attack Curve. Valid parameters are found only in the Sound and FX views.

Macros are also a quick and useful way to navigate around the synth engine, allowing you to move between the Macros view and the assigned parameters with a mouse click. The following workflows demonstrate how to assign, remove, rename and rearrange your macro assignments.

Assigning a Macro

To assign a parameter to a macro:

1. From any view in HYBRID KEYS, select the macro you want to assign.
2. Click the colored dot in the top-left corner of a macro knob. It will start blinking to show you that it's in Learn mode.



3. While the dot is blinking, click on the parameter you want to assign to the macro. Valid parameters are found only on Sound and FX views.
- The parameter is assigned to the macro, represented by it matching colored dot,

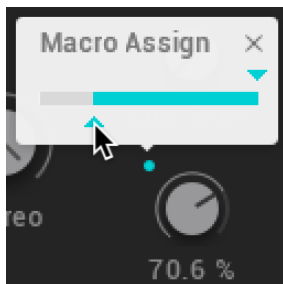
! If you no longer want to make an assignment, or you selected the wrong macro, you can exit Learn mode by clicking the same colored macro dot again.

Setting the Macro Range

When a macro is assigned to a parameter, a popup will appear. Here you can set the parameter range within which the macro will operate.

To set the Macro Range:

1. Drag the arrows left or right to adjust the parameter range.
2. Drag the bar in the middle to shift the whole range left or right
3. [Ctrl] / [Cmd] + click this bar to restore the range to the default value (full parameter range).



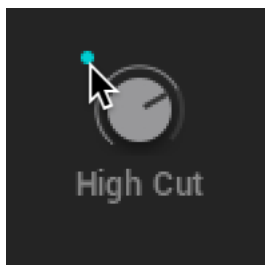
→ The range is set. When you have finished, click the **X** to exit the Macro Range popup.

Removing a Single Macro Assignment

In the Macros view, you can delete a parameter assignment from the Macro Slot list, using the **X** icon. Alternatively you can delete an assignment from the parameters.

To remove a macro assignment from a parameter:

1. Locate the parameter in the Sound or FX view.
2. Press [Ctrl] / [Cmd] + click the dot next to the assigned parameter.



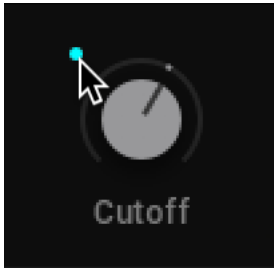
→ The assignment is removed from the macro.

! Press [Shift] + click the colored dot next to a parameter to instantly jumps to the Macros view where the assignment is listed. This provides a nice workflow if you often have to jump between pages.

Removing All Macros Assignments

To remove all macro assignments from a macro control at once:

1. From any view in HYBRID KEYS, select the macro you want remove all assignments.
2. Press [Ctrl] / [Cmd] + click the colored dot next to a macro control.



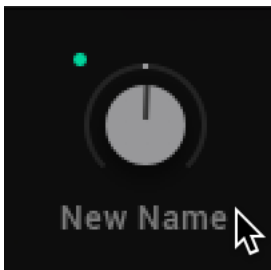
→ All assignments are removed from the selected macro.

Renaming a Macro

Renaming a macro can be used to help you remember what the assigned parameters do.

To rename a macro:

1. Click on the text below the macro knob to edit the current name. Double-click the text to enter a new name.
2. Type in your new macro name.



→ The macro now displays the new name.

! Note that text input is not possible when the sequencer is running.

Rearranging the Macros

Once you have set up all your macro controls, you might want to rearrange the order in which they appear. This is useful for keeping related controls close to each other, and can be tailored to suit your performance needs or playing style.

To change the order of the macros:

1. Click **MACROS** to enter the Macros view.
2. Click a colored macro button.



3. Drag the macro button left or right and drop at a new position.



→ The order of the macros controls is changed.

11.3. Macro Options Menu

The Macro Options menu provides a range of tools for editing the Macro Shaper Curve and managing your Macro Shaper presets. Tools dedicated to editing the shape of your curve include options for copying, mirroring, inverting, and straightening. Additionally, the initialization function enables you to reset the Macro Shaper Curve to its default values.

The Macro Options menu also offers options for saving and recalling Macro Shaper presets, as well as pre-defined curves to help you get started. There are also a number of quantization options provided to suit your various needs; from smooth and free-running, to grid-snapped blocks, these additional editing options provide flexibility and inspiration for utilizing the full potential of the Macro controls.

The Macro Options menu contains the the following elements:

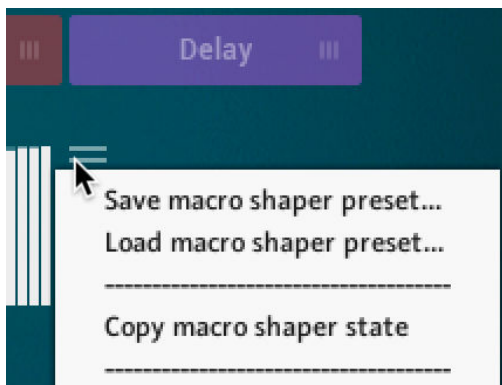


1. **Macro Options Menu:** Opens the Macro Options menu, which provides a range of tools and options for editing the Macro Curve Shaper and managing your Macro Shaper presets. This menu also contains predefined curve shapes, which you can conveniently recall when needed.
2. **Managing Macro Shaper Presets:** Options for saving and loading your Macro Shaper presets. For more information, see [Managing Macro Shaper Presets](#)

3. **Copy and Paste:** Options that allow you to copy the Macro Shaper Curve of the currently selected parameter, and paste it onto other parameters. This is useful for testing Shaper Curves on various parameters, without having to save them as presets.
4. **Shaper Editing Tools:** A range of tools that provide various editing functions for creating shapes with the Macro Shaper Curve. Tools include **Normalize**, **Rectify**, **Fractalize**, **Soften** and **Straighten**. Editing tools like **Invert**, **Reverse** and **Mirror**, allow you to reflect states in the Macro Shaper, providing inspiration and further control over your shapes. **Initialize** allows you to reset the Macro Shaper Curve to its default state.
5. **Quantize:** Provides 10 options for quantizing values of the Macro Shaper Curve. The Quantize value (**2, 3, 4, 5, 6, 7, 8, 9, 10, 12**) indicates the numeric division that will be applied to your curve. For example, if **Quantize 4** is selected, your curve values will be quantized to 0, 250, 500, 750 and 1000.
6. **Predefined Shapes:** Provides six options for predefined curve shapes that can be quickly implemented in the Macro Shaper Curve.

11.4. Managing Macro Shaper Presets

While macros are automatically saved with each Snapshot, the **Macro Shaper Options** menu allows you to save Macro Shaper presets separately and load them onto other sounds.



The following workflows demonstrate how to save and load your Macro Shaper presets from the Macros view:

Saving a Macro Shaper Preset

To save a Macro Shaper preset:

To save a Macro Shaper preset:

1. Click the **MACROS** tab to enter the Macros view.
 2. Click the Macro Shaper Options menu icon.
 3. Select **Save macro shaper preset....**
 4. Enter a name for your preset.
 5. Click **Save**.
- The macro shaper preset is saved as an .nka file.

Loading a Macro Shaper Preset

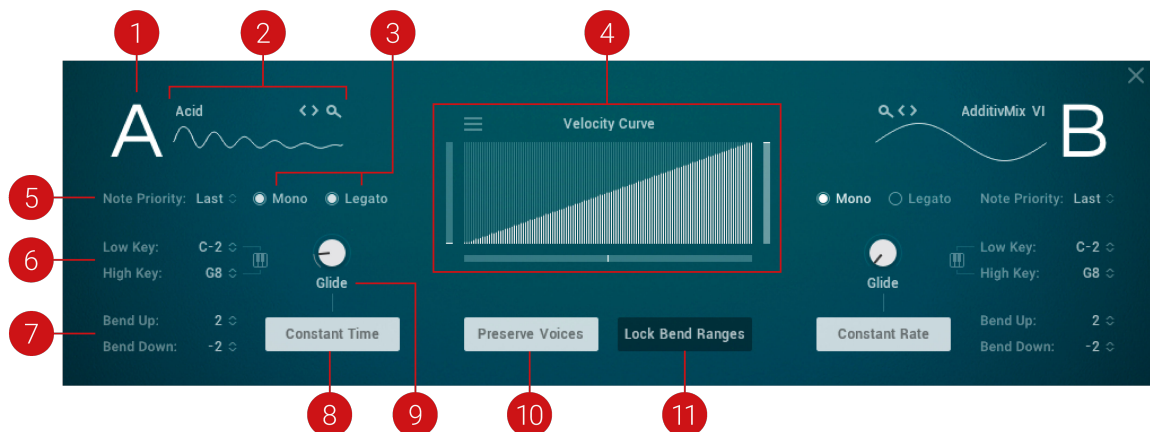
To load a Macro Shaper preset:

1. Click the **MACROS** tab to enter the Macros view.
 2. Click the Macro Options menu icon.
 3. Select **Load macro shaper preset...**
 4. Select a preset file.
 5. Click **Load**.
- The selected macro shaper preset is loaded in to the Macro Shaper.

12. Settings View

In the Settings view, you can change how HYBRID KEYS responds to your keyboard or MIDI. These settings include Velocity, Note Priority, Key Range, Pitch Bend Range, and Glide, all of which can be assigned to affect the instrument globally or separately for each layer. The settings made here are saved per Snapshot unless stated otherwise.

The following shows the parameters of the Settings view:



1. **Layer:** Click the **A** icon to turn the layer on and off. Turning the layer off will purge all samples from memory and reduce CPU usage. When the layer is turned off, the icon is dimmed.
2. **Browser:** To open the Browser, click on the sound source name, the waveform display or the Browser icon (magnifying glass icon). This gives you access to all sound sources available for layers **A** and **B**. To browse and load sound sources without opening the Browser, click the arrow icons (<>) to move through the list of sound sources.
3. **Play Mode:** This set of controls defines the play mode, as follows:
 - **Mono:** Monophonic mode retrigger sets the notes to behave like a monophonic synthesizer, meaning only one note can be triggered at a time. This is useful when you want to recreate an authentic monophonic synthesizer sound, especially when used in combination with **Legato** and **Glide**. You can change the **Mono** settings for both layers simultaneously by pressing [Alt] / [Opt] + clicking and dragging your mouse.
 - **Legato:** The legato playing technique typically allows for smooth, seamless transitions between notes. If **Legato** is turned on and detached notes are played, each attack will still be retriggered, but when overlapping notes are played, the pitches will change without new attacks, for a Legato response.
4. **Velocity Curve:** Sets your defined Velocity Curve for the keyboard to adjust the velocity response to your playing style. For more information, see [Velocity Curve](#).

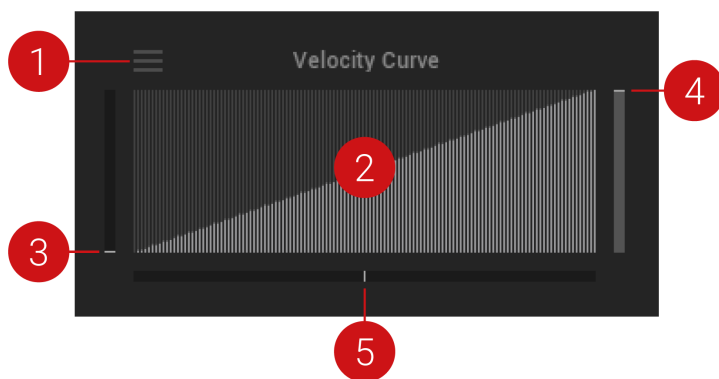
5. **Note Priority:** This determines what note has priority when more than one note is played in mono or mono legato mode. You can change the Note Priority settings for both layers simultaneously by pressing [Alt] / [Opt] + clicking and dragging your mouse. The following note priority settings are available:
 - **Last:** Gives priority to the last note played. With last note priority, priority is based on the order in which keys are played
 - **Low:** Gives priority to the lowest note played. With low note priority, new notes that are lower in pitch than ones being already played replace currently playing notes from the highest on up. Low note priority is most common on monophonic vintage synths.
 - **High:** Gives priority to the highest note played. With high note priority, new notes that are higher in pitch than ones being already played replace currently playing notes from the lowest on up. Setting one layer to low note priority and the other to high note priority you can simulate duophonic behavior of certain vintage synths.
6. **Key Range:** This allows you to set the highest and lowest key in the range for the current layer. This could, for example, be used to set the left side of the keyboard to play layer **A** sound and the right-side to play layer **B**, or to blend the layers anywhere on the keyboard necessary. To set the key range use the following settings:
 - **Low Key:** Sets the low key limit for layer **A** or **B**.
 - **High Key:** Sets the low key limit for layer **A** or **B**
 - **Learn Key Range via MIDI:** Click this icon to set the key range for the selected layer via MIDI. Then set the range by pressing the high and low key range on your MIDI keyboard or device. By pressing [Ctrl] / [Cmd] + clicking the icon you can reset the key range to the default setting.
7. **Bend Range:** You can set the pitch bend wheel range for layers **A** and **B** individually or for both of the two layers using your MIDI keyboard, based on your playing preference. The range is up to 24 semitones (2 octaves). Many musicians use a range of 2 semitones (a whole step) as this is the bend range of many acoustic instruments. For more special effects, you may wish to set a wider range. You can set the bend range using Bend Up and Bend Down:
 - **Bend Up:** Sets the pitch bend up range for layer **A** or **B**.
 - **Bend Down:** Sets the pitch bend down range for layer **A** or **B**.
8. **Glide Mode:** The Glide Mode button switches the Glide mode between a constant rate or a constant time setting for the glide as follows:
 - **Constant Rate:** The glide between notes has a constant rate of change regardless of intervals played, which makes glides between intervals take more time than glides on smaller intervals.
 - **Constant Time:** The glide between notes have a constant time (duration) regardless of intervals played.
9. **Glide:** This causes the pitch of a note to glide up or down from the pitch of the previously played note. Glide speed is set using the Glide knob. If the Glide knob is set to the far-left position, glide has no effect. In the far-right position, the glide is in full effect. Use Glide in combination with the **Glide Mode** button (8). You can change the Glide settings for both layers simultaneously by pressing [Alt] / [Opt] + clicking and dragging your mouse.
10. **Preserve Voices:** Preserve Voices mode allows only one voice to be played per key. This is a global control and as such is not stored in Snapshots.
11. **Lock Bend Ranges:** Locks pitch bend ranges across all Snapshots. This is a global control and as such is not stored in snapshots.

12.1. Velocity Curve

The Velocity Curve Shaper allows you to define velocity curve for the keyboard and to adjust the velocity response to your playing style. The Velocity Curve has two modes of operation; in the default mode, the Velocity Curve is set using the Curve Slope and Curve Table controls. In User mode, the table becomes a free canvas for you to draw within. You can edit the curve by clicking and dragging your mouse across the table, and then save your curves as presets, to recall at another time.

Velocity Curve Shaper

The Velocity Curve Table contains the following controls:

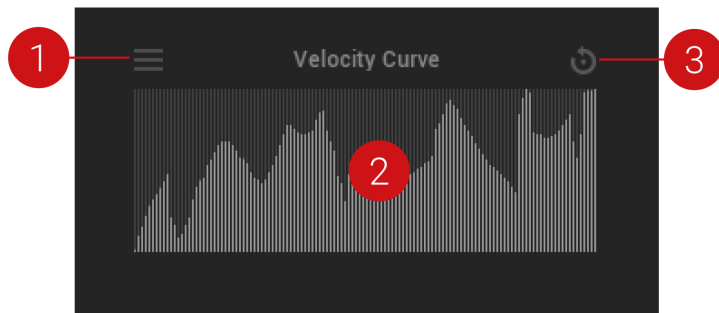


1. **Velocity Curve Menu:** This menu defines the operation of the Velocity Curve and allows you to save and recall your Velocity Curve presets. For more information, see [Managing Velocity Curve Presets](#).
2. **Velocity Curve Table:** This area displays your velocity curve. When in User mode, this area is used to draw a customized curve shape by clicking + dragging your mouse.
3. **Velocity Curve minimum value:** Use the vertical slider on the left of the Curve Table to set the minimum value of the velocity curve. Pressing [Alt] / [Opt] + dragging the mouse will set minimum and maximum to the same value. Press [Ctrl] / [Cmd] + click to set to the minimum value.
4. **Velocity Curve maximum value:** Use the vertical slider on the right of the Curve Table to set the maximum value of the velocity curve. Pressing [Alt] / [Opt] + dragging the mouse will set minimum and maximum to the same value. Press [Ctrl] / [Cmd] + click to set to the maximum value.
5. **Velocity Curve slope:** Use the horizontal slider directly underneath the Curve Table to set the slope of the velocity curve

! All Velocity Curve controls are global and as such are not by default stored in Snapshots! If you want to save a velocity curve, see [Managing Velocity Curve Presets](#).

User Velocity Curve

The User Velocity Curve Table contains the following controls:



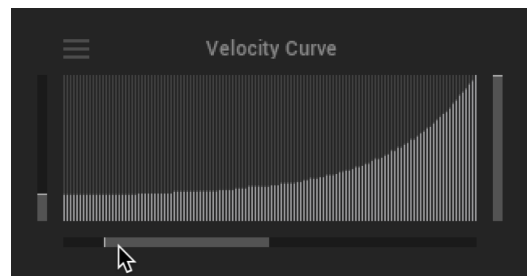
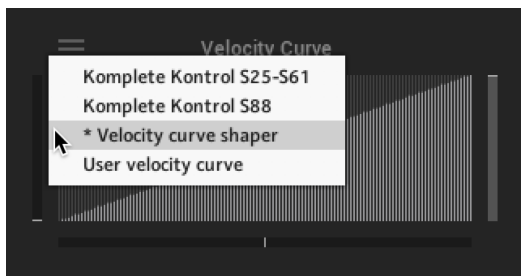
1. **Velocity Curve Menu:** This menu defines the operation of the Velocity Curve and allows you to save and recall your Velocity Curve presets. For more information, see [Managing Velocity Curve Presets](#).
2. **Velocity Curve Table:** When in User mode, this area is used to draw a customized curve shape by clicking + dragging your mouse.
3. **Reset Table:** Resets the Velocity Curve Table to its default linear curve.

12.2. Editing the Velocity Curve

The following workflows demonstrate how to edit the Velocity Curve in the two different operating modes:

Editing the Velocity Curve Shaper

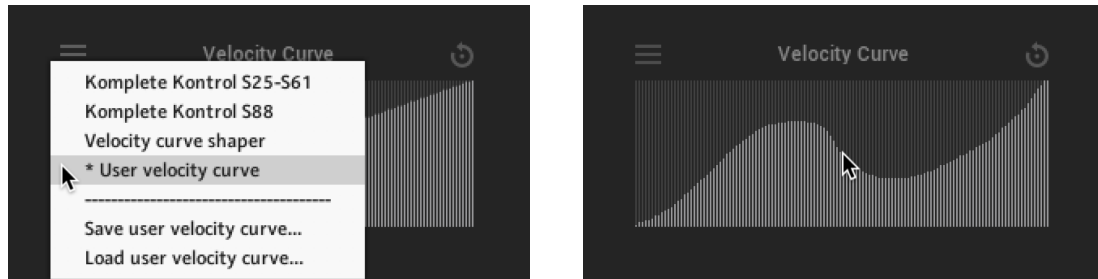
To edit the Velocity Curve:



1. Click the settings icon to enter the Settings view.
2. Click the Velocity Curve Menu icon in the top left corner.
3. Select **Velocity curve shaper**.
4. Use the three sliders to create a curve.

Editing the User Velocity Curve

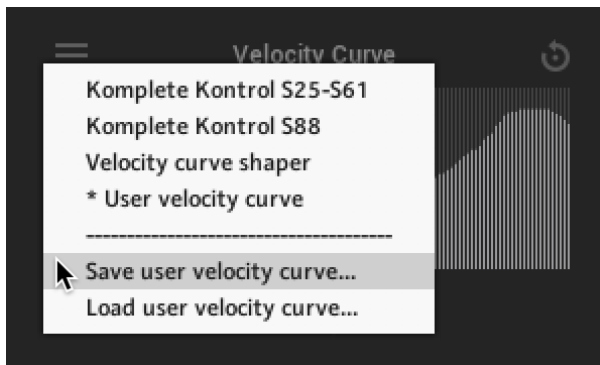
To create a User Velocity Curve:



1. Click the settings icon to enter the Settings view.
2. Click the Velocity Curve Menu icon in the top left corner.
3. Select **User velocity curve**.
4. Draw in your Velocity Curve shape using you computer mouse.

12.3. Managing Velocity Curve Presets

Using the Velocity Curve Preset menu, you can manage all you custom Velocity curve presets. The following workflows demonstrate how to save and load your presets from the Settings view.



Saving a Velocity Curve Preset

To save a Velocity Curve preset:

1. Click the Settings button (cog icon) to enter the Settings view.
2. Click the Velocity Curve Preset menu icon in the top left corner of the Velocity Curve.
3. Select **User velocity curve**.
4. Make changes to you preset.
5. Select **Save user velocity curve...**
6. Enter a name for your preset and click **Save**.

Loading a Velocity Curve Preset

To load a Velocity Curve preset:

1. Click the Velocity Curve Preset menu icon in the top left corner of the Velocity Curve.
2. Select **Load user velocity curve...**
3. Select the user velocity curve preset you want to load.
4. Click **OK**.

13. Credits List

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Sound Design: Wave Alchemy, Stewart Walker

Product Owner: Barry McManus

Documentation: Hannah Lockwood, David Gover

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Marketing Manager: Mark Cummins

Artwork: Fabian Ruf

Finalization and Encoding: Bymski Stempka