Soniccouture

PAN DRUMS II

USER GUIDE

PAN DRUMS

The Pan or Hang Drum is a relatively new musical instrument, the first one being built in 2000. It was designed in Bern, Switzerland, by Felix Rohner and Sabina Schärer of the PANArt company, and was the result of many years of research into the Caribbean steel pan and other resonating percussion instruments. Each Hang Drum is built by hand and is unique.



Ding Side   *Gu Side*

A Hang consists of two hemispheres of hardened steel, which are joined together giving it a flying saucer shape. The top side is known as the Ding and the bottom known as the Gu. The Ding side has seven or eight 'dimples' or 'tone fields' that are struck to provide the different notes of the instrument. These are arranged around a central boss (also called the Ding) which provides the basic root note of the instrument. The Gu side has a large hole, and can also be played as a drum, although it has only one pitch.

The word "Hang" is from the Bern language and means "hand", and the Hang is usually played with the hands. It has a very wide dynamic range and can produce a variety of sounds, sometimes resembling a gong or vibraphone, as well as it's ancestral steel pan.

Soniccouture Pan Drums features samples from the first 2 models of Hang which we will refer to as the Mk 1 and Mk 2. The Mk 1 had 8 "tone fields" around the Ding. These were available in 45 different tunings, and PANArt produced nearly 4000 of them.

At the end of 2005 PANArt ceased production of these instruments and began developing the Hang Mk 2. The Mk 2 remained basically the same shape but now had a
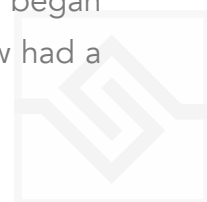
brass coating on the top hemisphere as well as around the rim. The Mk 2 comes in only five different tunings and has only seven "tone fields" around the Ding. It is a more sturdy design, stays in tune better over time, and has a slightly longer and purer sonic ring.

Hang Mk1   Hang Mk2

We also sampled two models of the HALO DRUM, manufactured by Pantheon Steel in Missouri.   Kyle Cox and Jim Dusin brought two of their favourite drums for us to record and Kyle played the sampling session himself. The Halo is similar to the Hang, but larger and slightly deeper sounding.

We also recorded pair of [Rock Creek tongue drums](#). These are chromatic and played with mallets.

In 2024 we added two more handpan drums to the collection… the first of these is the Meridian handpan, made in Bristol UK.   This is very similar to the original Hang drum and has a delicate sound.

The second is the Rav Vast, which is a tongue drum (the tonefields are cut out of the metal rather than beaten thin).   The Rav Vast has a unique sound quality and was built in Russia.


This brings the total number of drums in Pan Drums to 7.

ARTICULATIONS

There are many ways to hit a pan drum to achieve different sounds... with the fingertips, the palm of the hand, or with your knuckles. Also, where the Hang is struck results in a different type of sound quality. We have sampled our Hang Drums at three different zones around each "tone field"... the centre, the edge, and in-between.
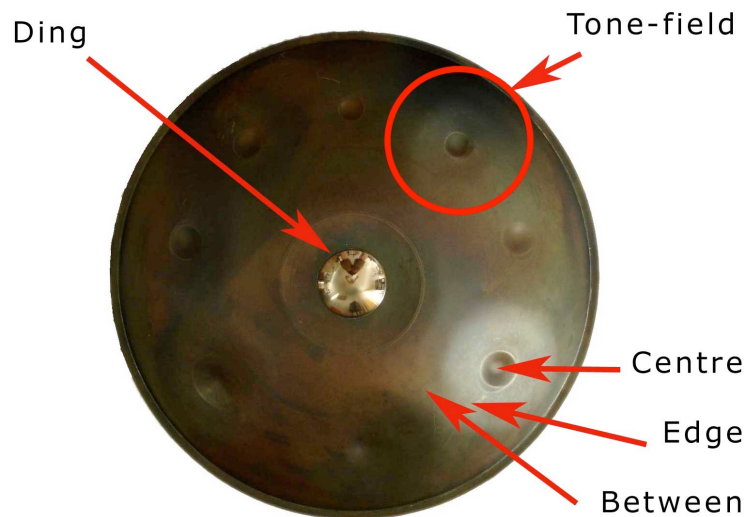
Generally, the Hang is rested on the player's lap with the lowest "tone field" towards him, and the notes are laid out so that a scale alternates left and right hands, as in this diagram of a Mk 1 Hang:
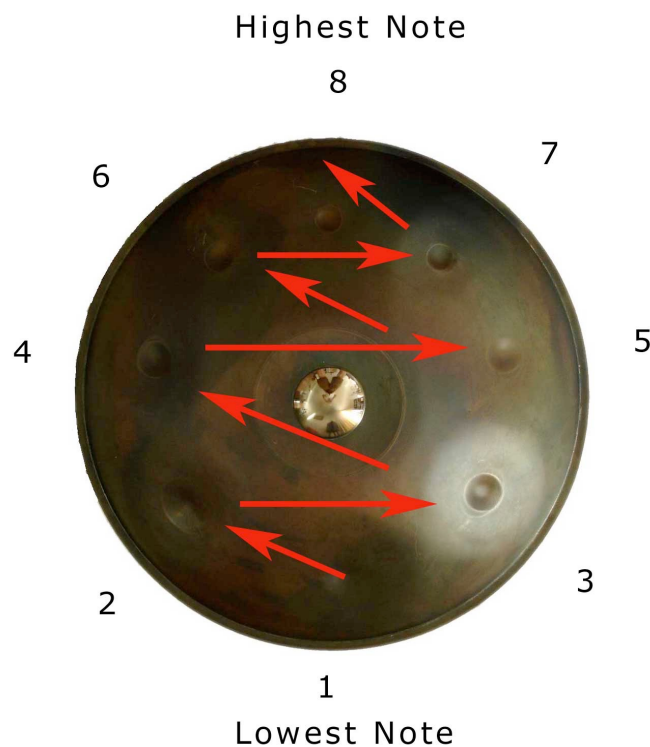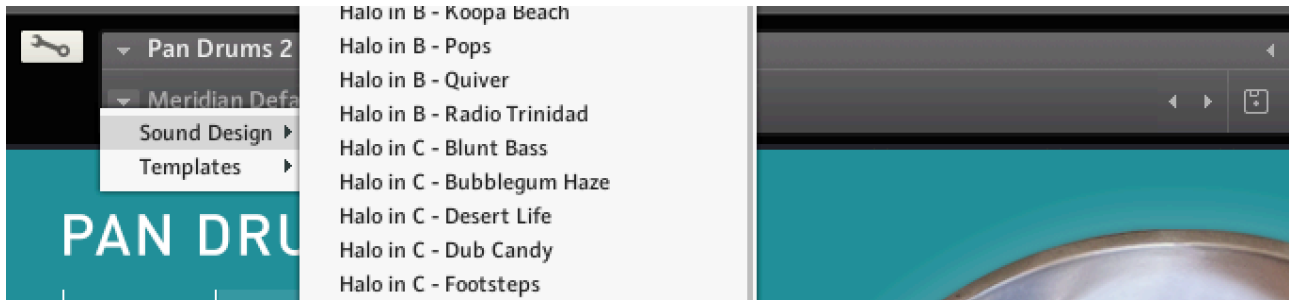
The middle *Ding* note is basically the "key" of the drum, and is the lowest note of the set.
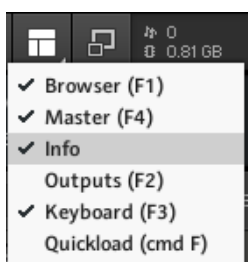
THE KONTAKT INSTRUMENT

SNAPSHOTS

Kontakt stores presets as Snapshots, and you can use these to save your own setups or load presets we've made.
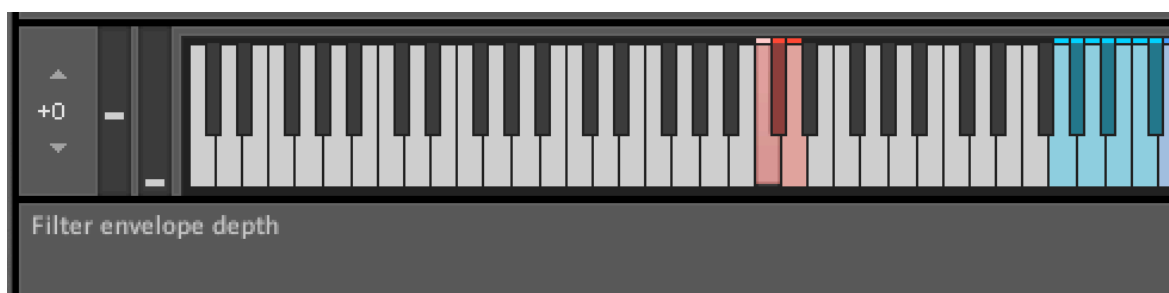
If the Snapshot menu doesn't appear, be sure to click on the small Camera Icon at the far right of the title bar (see above).

BUILT-IN HELP

THIS IS REALLY USEFUL!

If you activate the Info pane in Kontakt, you can hover over any control in the instrument and a short note will appear in the Info pane at the bottom describing what that control does.

ARTICULATIONS

For the Hang drum marks 1 and 2, each "tone field" was sampled at the centre, the edge, and in-between at up to 21 velocity levels, and with up to three versions of each hit in a round-robin rotation. We also sampled each tone field with the fingers (normal playing), the palm (a "slap"), and with the knuckle. We also sampled some hits on the Gu side, which is a single pitch and sounds similar to an Udu drum.

For the Halo drums we sampled articulations using the Fingertips, the Thumbs, the palm Slap, and Mallets.

The Rock Creeks were only played with mallets, as these are very thick and the sound is not easily generated with the fingers.

The Meridian was sampled in the centre, the edge, and on the corner of each tone field.

The Rav was sampled in the centre, at the first harmonic, with a slap, and with the tonefield muted.

EDITING
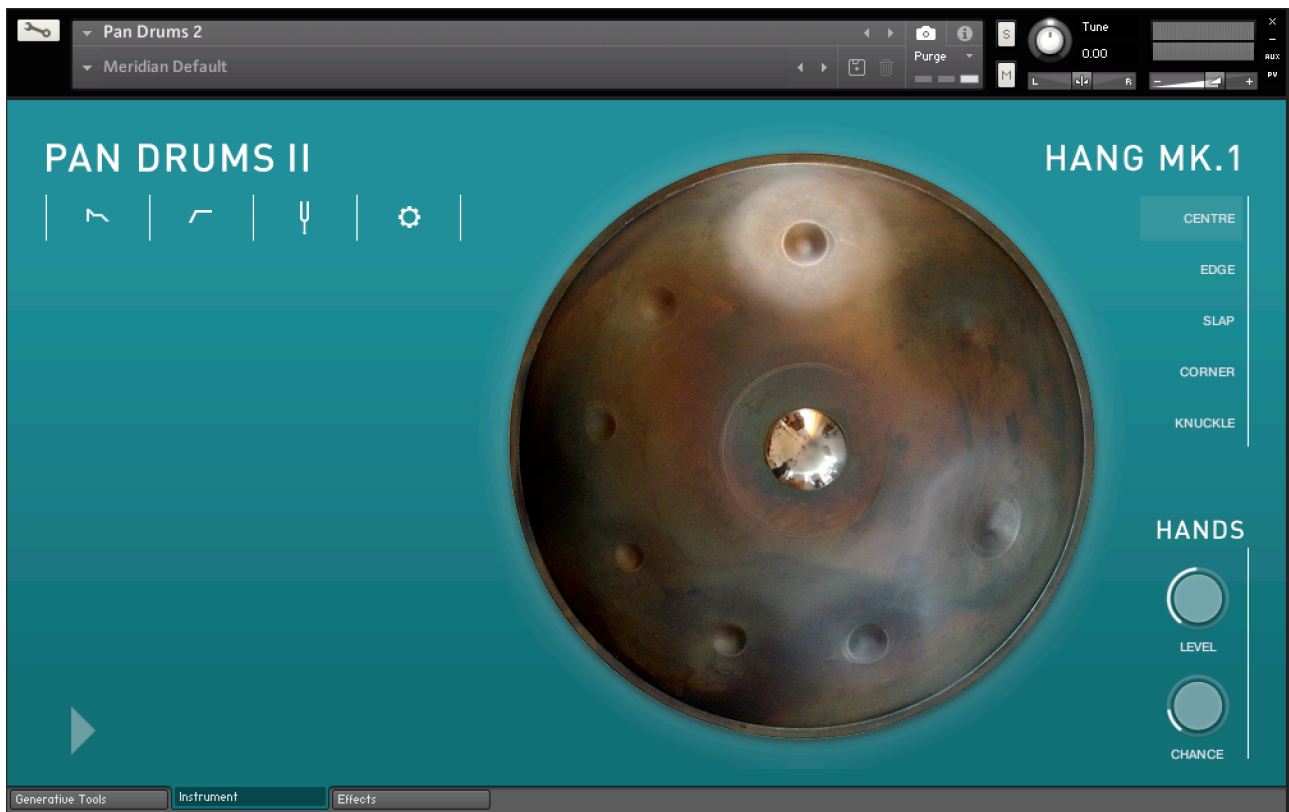
At the top left is a row of icons. These open the various edit pages:

These four switches open four different parameter editors.

From left to right: Amp Envelope, Filter, Tuning, and Options.

AMP ENVELOPE SECTION

The ENVELOPE tab gives you control of the ADSR Amplitude envelope. VELOCITY is a control for the velocity depth to volume.

FILTER

On the FILTER tab you can control the filter CUTOFF frequency, as well as choose the filter type with a drop down menu.   Here you can also control the RESONANCE of the filter, the ENV depth, the High Pass Filter cutoff, and the VELOCITY to filter cutoff depth, the Keyboard TRACKing of the filter cutoff frequency, and our custom SLIM parameter.   SLIM controls the amount of fundamental in the sound, as you bring up the SLIM knob the fundamental frequency is removed.

The Attack, Decay, Sustain and Release controls for the Filter envelope are on this same tab.

TUNING

In this editor you can enable microtuning. You can either create your own, or choose one of the presets from the menu on the left. You can import or export tunings using the menu on the right. All Soniccouture microtuning instruments share this same tuning format and you can use a tool at [Scale Workshop](#) to create tunings in Soniccouture format if you like.
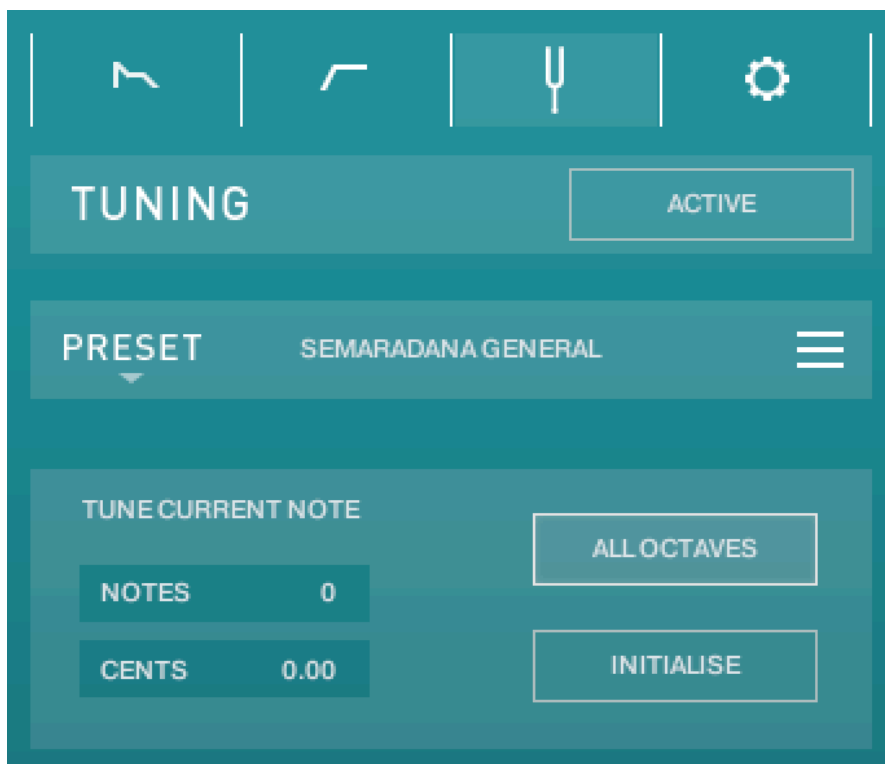
The title bar is a switch that turns the microtuning function on or off.
There are some preset tunings on the left, and an import/export menu on the right.

In the middle is displayed the current TUNE CURRENT NOTE, the key that is currently being edited. You can adjust the NOTES (semitone) or CENTS offset of this key.

If ALL OCTAVES is checked (at the bottom right) then all instances of that key will change together… this is very useful if you're designing a scale that repeats at the octave, which many of course do.

INITIALISE will set the microtuning to nominal, no offsets for any notes.

OPTIONS

In this editor you can adjust the velocity CURVE. Below that you can add some randomness to the note TIMING, VELOCITY, and PAN. On the bottom row you can TRANSPOSE the entire handpan, and introduce randomness to the ARTiculation choice.

The menu at the top right allows you to enable or disable the round robins, and choose whether to show the drum tonefield animation or not.
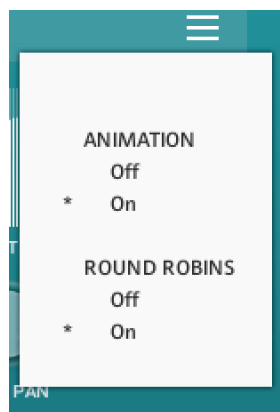
EFFECTS

The EFFECTS panel is divided into 5 sections.

Insert Effects
Equaliser
Stereo
Saturation
Space

THE INSERT EFFECTS

Here you can choose up to 3 insert effects. The effect is enabled with the square power switch to the left of its name at the top of the tab, and the appropriate controls will appear below when its tab is selected.

You can select from a list of effects using the menu to the right of the effect name in the tab.

The effects are in routing order from left to right, and are before the EQ and other effects on this panel.

You can only select each type of effect once, if you select an effect already in use, then the position of those effects will be swapped.
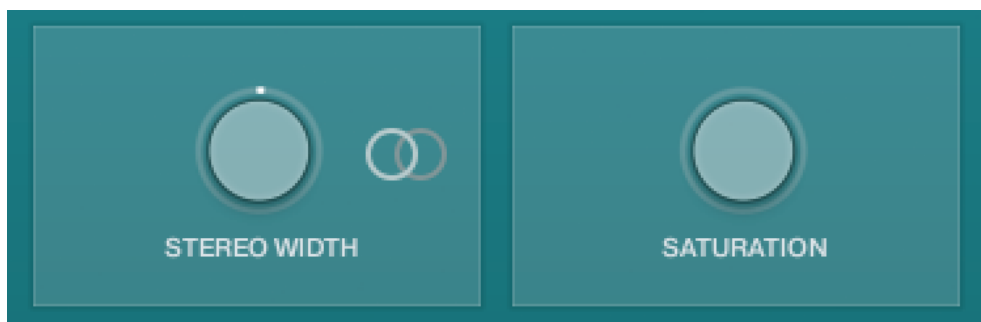
EQUALISER

This is a fairly obvious four band parametric EQ. The fader on the far right is the output level from the EQ.

Note that BELL and SHELF are drop down menus, you can choose either for the top and bottom bands.   You can enable or disable the EQ with the power switch at the top left.

STEREO AND SATURATION

Here you can adjust the STEREO WIDTH (the natural recording is nominal at 12 o'clock). Moving the control left narrows the width, and to the right increases it.

There is a stereo SWAP feature, enabled with the symbol:

SATURATION will adjust the SATURATION effect.

SPACE

This is the convolution reverb section.   In the middle there is a drop down menu with a selection of our impulse responses.

As usual, the power switch is at the top left.

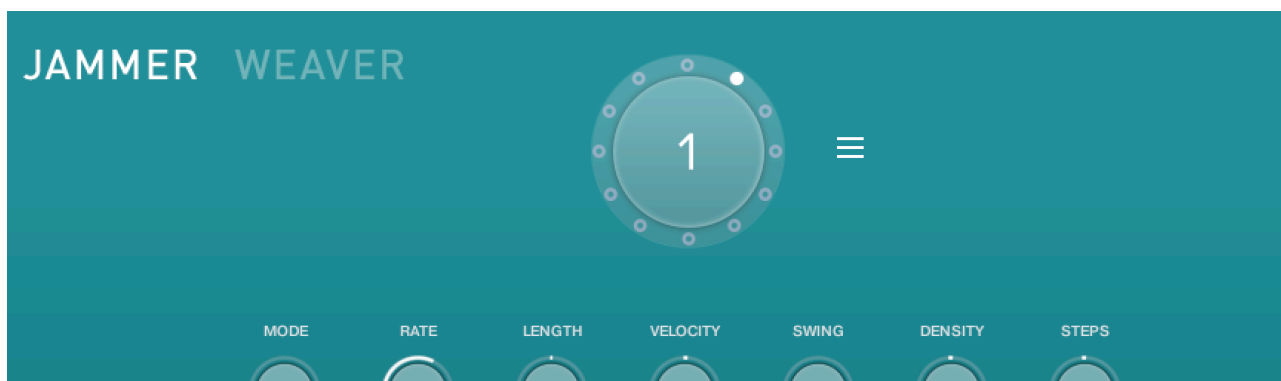The controls below are the PREDELAY, the convolution impulse SIZE, a High Pass and Low Pass Filter, as well as the return MIX level on the large central knob.

GENERATIVE TOOLS

This panel has two options, chosen with the menu at the top left:

JAMMER

WEAVER

PLAY

The play icon at the bottom left enables or disables the Generative Tool.   This control is duplicated on the other pages for convenience.

JAMMER

The large knob in the top middle is a Preset wheel with 12 presets. You can overwrite these, copy them, import and export them, using the menu to the right of the wheel.

The seven knobs along the middle of the Jammer are global controls, these are:

MODE This sets the type of arpeggiation used to create patterns. The original Jammer mode is Random mode, but you can also choose Up, Down, or Up Down, for somewhat more traditional arpeggiator results. This controls how the notes are selected from what you are holding down.

RATE controls the speed of the Jammer, this is always related to the tempo of Kontakt or the host sequencer.

LENGTH is an offset to the duration of the created notes. In the centre position, the notes are created at the same duration set by the Rate knob, but using LENGTH you can make these longer or shorter.

VELOCITY adds or subtracts from the velocity of the notes created by the Jammer. Automating this can be useful for creating fades.

SWING adds some time to the offbeat notes to give a shuffle or swing feeling to the rhythm.

DENSITY and STEPS are controls that allow you to create Euclidean rhythms with the Jammer. If DENSITY is as big as STEPS then you won't hear anything different, since all the steps are "active". However, when DENSITY is LESS THAN STEPS, then there will be some rhythmic gaps spread equally throughout the pattern (this is the essence of Euclidean rhythm; *distribute a determined number of onsets as evenly as possible across a determined number of steps*.)   Due to the universality of rhythms created by this method, there has been a lot of interest in the algorithm over the last 15 years or so.

The next five sliders, below the knobs, are controls for the generative part of Jammer, which are essentially randomising various aspects of note generation.   These are:

NOTE add random offsets to the pitches you give Jammer (are holding down). This is in semitones, so if it's set to "1" the Jammer will output notes plus or minus 1 from the notes you play, as well as the note you play.

OCTAVE add random octave offsets to the pitches created by Jammer. This control only ADDS octaves, it doesn't subtract octaves.

TIME add random changes to the timing of the Jammer, so that the result is less stable and rhythmic.

VELOCITY add random changes to the velocity of the output notes. This always uses the input velocity as a starting point, so if the VELOCITY range is small, it will just add small changes to your input velocity.

GAPS add random rests or silent beats into the Jammer sequence.

In the middle of this section you'll see a button titled "EVOLVE", with the number 16 to the right of it (by default).   EVOLVE mode means that the Jammer is working to generate new data constantly, the randomisers are always creating new patterns from your input notes.

If you click on EVOLVE, the button changes to display LOOP.   Now the Jammer is repeating the pattern it most recently created. The length of this pattern is determined by the number to the right, so by default it repeats the last 16 generated 'notes'.

It's important to remember that the Jammer is not storing the 'notes' themselves, but rather the choice of, and offsets to, the input notes you play into it. So even in LOOP mode, the Jammer will output different notes depending on what notes you play. The pattern is stored, not the exact notes themselves.   This means you can created quite complicated patterns, but play them with any chord or input notes.

There are three buttons on the left:
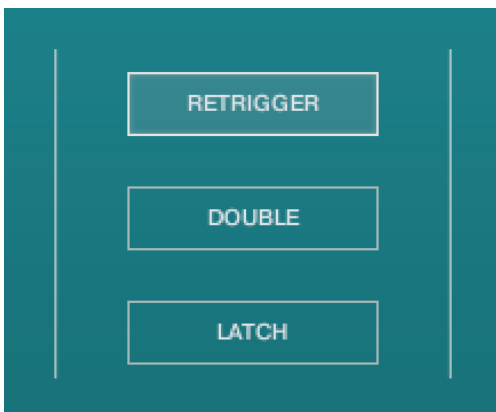
RETRIGGER will force the Jammer to start from the beginning after all notes are lifted (legato).

DOUBLE will trigger two notes on each step, as if you are playing with both hands simultaneously.

LATCH will tell the Jammer to hold the current notes until new notes are received.

At the right is a small keyboard that represents a pitch filter.   Here you can limit the output notes of the Jammer to a certain key or chord or any selection of notes you like.   At the bottom of the small keyboard is a drop down menu with some popular scales, but you can click on the keyboard directly to allow or disallow any pitch as you like.
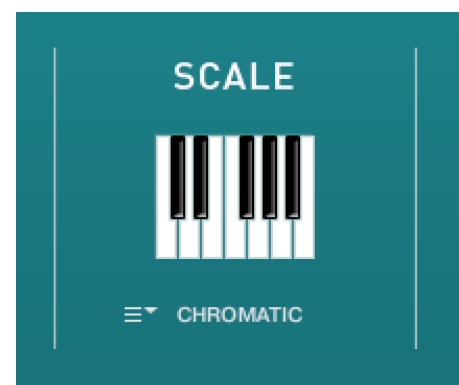
WEAVER
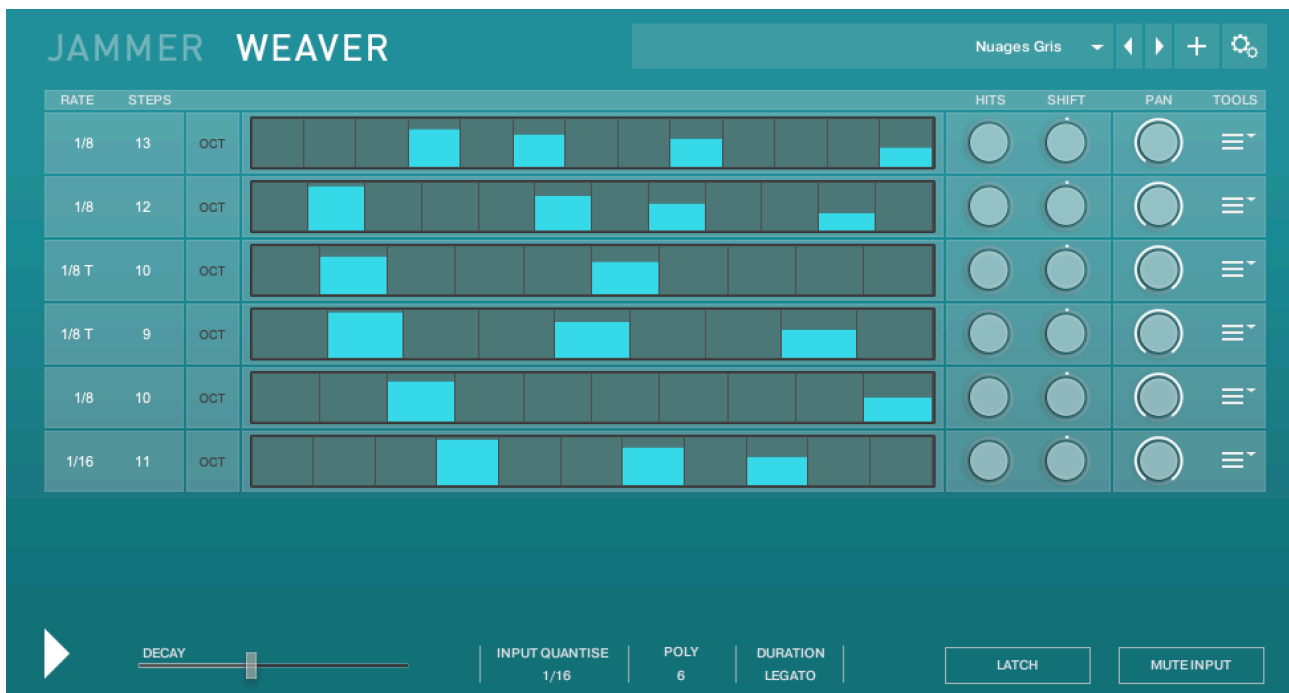
The WEAVER is a tool that allows you to define a rhythmic sequence to be played by an input note.   More about how this works later, in the Weaver Editor section below.

The main page has a PRESET menu at the top, you can choose these from the drop down or by stepping through them.   You can store your own settings to any of these menu positions using the + button. And you can import and export presets if you need with the cog menu on the far right of the PRESET bar.

In the middle of the page is the main WEAVER editor section, we'll come back to this soon.

Below that, there is a large slider labeled DECAY. This controls the overall decay time of the sequence, since each pattern will loop.   If set all the way to the right, the pattern will never decay.

At the bottom are some global controls for the WEAVER sequence.

INPUT QUANTISE	POLY	DURATION	LATCH	MUTE INPUT
1/16	6	LEGATO		

INPUT QUANTISE.   This is very useful, but only works if Kontakt is running it's own transport, or else is inside a running DAW.   But when this is the case, none of the WEAVER patterns will trigger until they're in sync with the value set in INPUT QUANTISE. (ie. 1/16th note) This keeps your patterns really tight and in sync with the song you might be working on.

POLY is the polyphony of the WEAVER pattern. From 1 to 8.   If you play more notes than that, they are ignored by the WEAVER engine.

DURATION is the duration of the notes generated by WEAVER, and this can be set to a value, or else to LEGATO, in which case it will play until the next note on any given row comes along.

LATCH will hold the current notes, even if you let go of the keys.

MUTE INPUT turns off the MIDI sent into WEAVER, so you'll only hear the notes generated by WEAVER. Sometimes this is what you want, but also sometimes it's nice to hear the original notes and have WEAVER accompany them, respond to the notes you play.
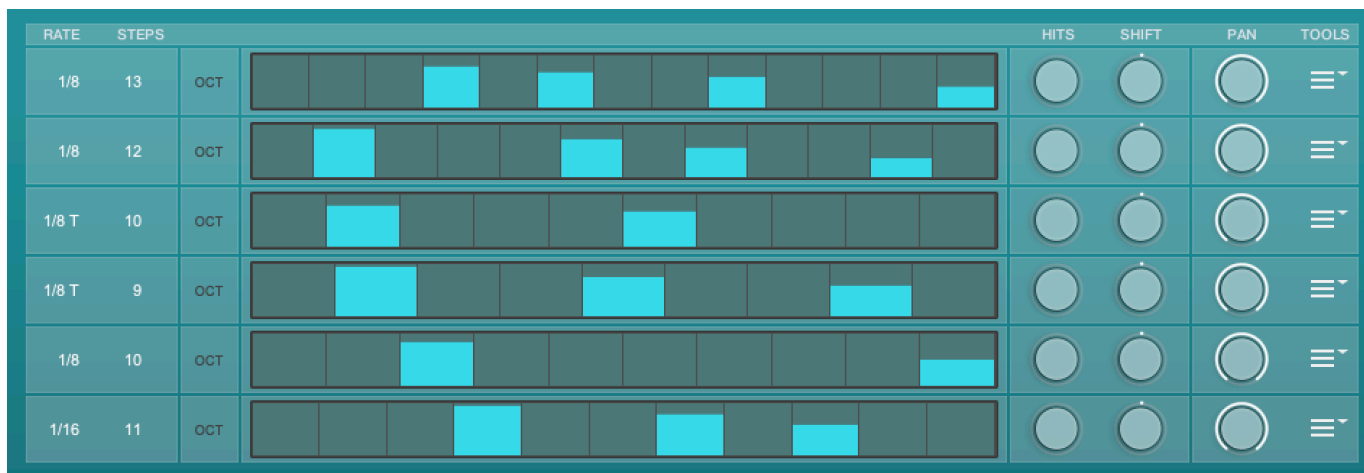
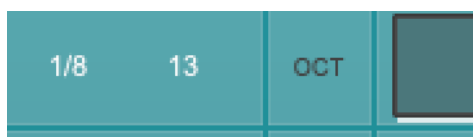The above display shows all 6 rows active (POLY set to 6). All rows are the same.
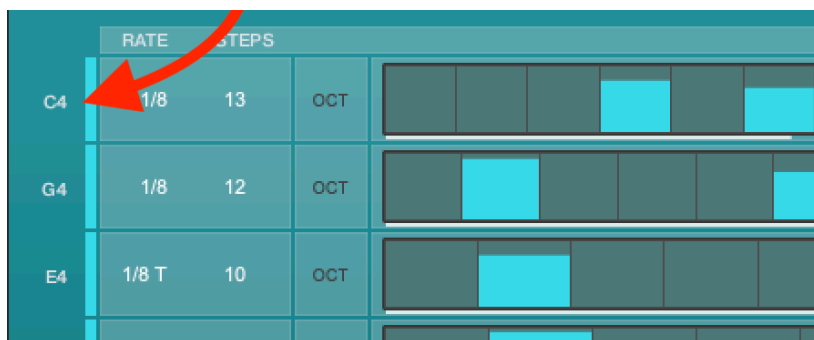
Notes are assigned a row in the order they're received. You can see the notes assigned to each row at the far left when you play.

At the left of each row, you can set the RATE and the number of STEPS for the row. Here this row is set to 8 steps of 1/8th notes.

There is also an OCT switch here, OCTAVE, which we'll discuss a bit later.

In the middle is the velocity steps table. You can draw in here as you like. This pattern uses the input velocity, so the maximum output velocity will be the velocity of the note that triggered the pattern.

If you ALT-drag, you can set all active steps to the same velocity.

On the right there are two EUCLID generator controls. HITS and SHIFT.   Be careful with these, because they will write new data into the pattern table, and overwrite anything you may have drawn.

EUCLID rhythm generators basically spread a number of hits, as evenly distributed as possible, within a number of STEPS. So if you set this HITS to 5, it will try to evenly distribute those 5 hits among the 8 steps we set that row to contain.

SHIFT shifts the position of the hits, left or right, in the pattern.

The PAN control introduces random panning to notes generated on that row.

POWER TIP   *IF YOU WANT TO SET ALL ROWS THE SAME, HOLD DOWN ALT OR OPTION WHILE ADJUSTING A PARAMETER*
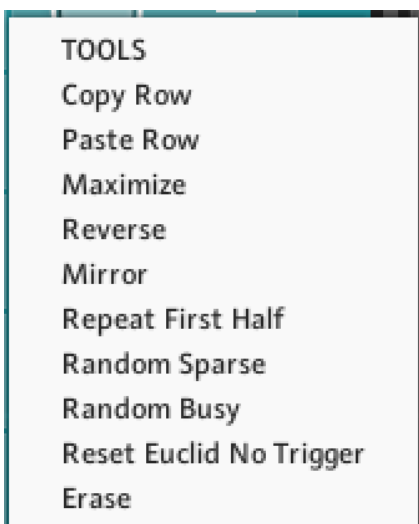
And lastly at the far right, there is a menu with some drop down tools to manipulate the row.

OCTAVE

When you press the OCT button on the left, you see a green table instead of the blue one.   This is an octave shift table that can transpose the incoming note one or two octaves up.   This is nice for adding some variation to the WEAVER pattern.

A NOTE ABOUT THE PRESET STORE BUTTON

When you press the preset store button, it grows a small arrow:

This is a kind of "store enable" mode.   If you now choose a menu item, your preset will be stored at the menu location you store.

If you just hit the store button again, it will overwrite the preset you had selected when you started editing.   So you can just click it twice quickly to store the preset where it is.

SUPPORT

If you have any problems or questions relating to the use of this product, please feel free to contact us. You can email us at :

http://www.soniccouture.com/en/support/

We will always endeavour to reply to any enquiry within 24 hours. We are based in the UK, so please bear in mind differences in time zones.

While you are waiting, you will find lots of answers to common questions in our FAQ.

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