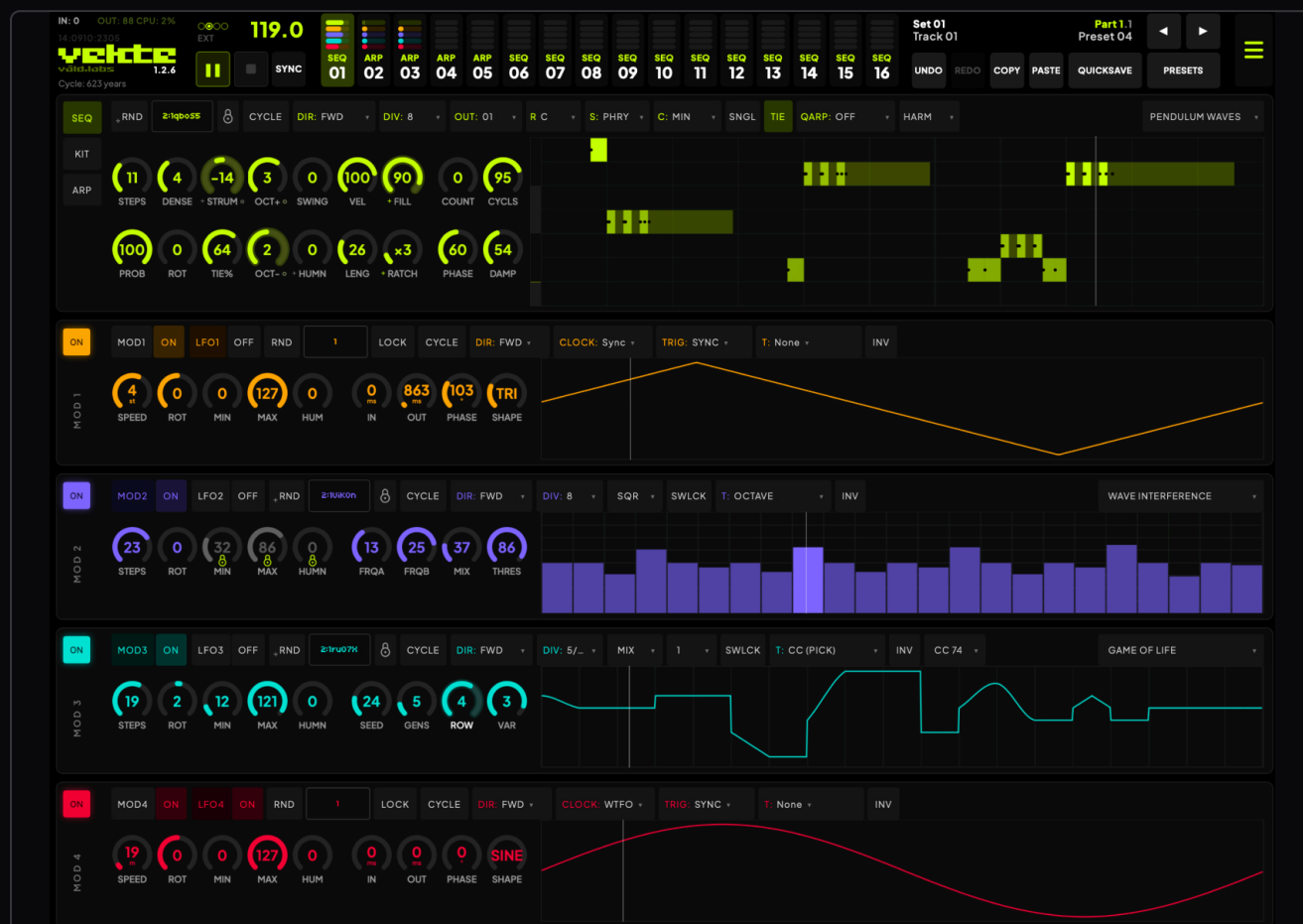




User manual.



Earlier 1.2.6 interface: SEQ and four modulation lanes. See the text for 1.3.0 controls.

DESKTOP / 1.3.0

macOS · Windows
October 2026

Certain technologies shared by VEKTE and Rekke are the subject of a provisional patent application filed with INPI (Portugal).

01 / VEKTE MANUAL

Find your way.

Make a pattern. Give it movement. Keep the good versions.

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A sequencer, not a sound source

VEKTE sends MIDI notes and control messages. Connect it to a software instrument or hardware synth to hear the result.

Desktop edition 1.3.0. Screenshots show earlier 1.2.6 layouts and are labelled as reference images; the text describes 1.3.0 controls. This manual covers macOS and Windows.

02 / VEKTE MANUAL

Find your way, continued.

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Start simple. Go as deep as you like.

A generated phrase is enough to begin.

VEKTE helps you make musical phrases, shape their rhythm and harmony, and send them to your favourite software instruments or hardware synths. Start with a pattern, move a few controls and listen. Edit the notes you want to keep, lock them, and let the rest change.

You should be able to use 5% of VEKTE and still have a complete, satisfying experience. The other 95% is there whenever curiosity takes over. A simple bass line, a drum groove or an arpeggio can be a finished idea.

When you want more movement, add a MOD sequencer or an LFO. Let it shape velocity, timing, harmony or a synth's MIDI CCs. Explore independent clocks, repeat a note before moving on, or let one slot conduct another. Save the variations that work.

Discover it as you play

Hover for tooltips on desktop. Right-click or long-press controls to find secondary functions, modulation assignments and Explain. A + marks more options; live values and modulation indicators help you follow what is changing. MOD/LFO Explorer brings the connections together in one view.

Version 1.3.0 is VEKTE's first commercial release. This manual starts with the basic workflow, then follows the controls into timing, harmony, modulation, routing and recall. You can read it in order or open the chapter you need.

Begin with a sound

VEKTE produces MIDI. Connect one slot to an instrument, make a phrase you enjoy, and build from there.

Explore 1.3.0.

A few starting points for users coming from 1.2.6 or 1.2.2.

1. **Open a context menu.**

Try knobs, notes, lane controls and slot buttons. Read Explain and explore secondary functions.

2. **Repeat a whole note.**

Choose Repeat in the RATCH menu. Try three notes with 2, 1 and 5 total plays, then modulate Repeat Count.

3. **Leave the tempo grid.**

Select Hz, Audio or WTFO for NOTE, MOD or LFO. Drag NOTE/MOD DIV vertically to set speed.

4. **Connect several destinations.**

Use MOD and LFO together in one bank. Send a source to timing, harmony and numbered MIDI CCs.

5. **Follow the connections.**

Open MOD/LFO Explorer and inspect live values. Mute, Solo or Delete a connection to hear its role.

6. **Keep a variation.**

Save into the selected set or song. Use QUICKSAVE and compare versions with next-bar recall.

MIDI BANK/PRGRM

Recall is experimental and not yet fully implemented in 1.3.0.

Your first pattern.

Start with one slot and one instrument.

1. **Connect a sound.**

Load VEKTE and route its MIDI to a synth. In Logic, use VEKTE as a MIDI FX before the instrument. For other hosts, see the routing chapters.

2. **Choose slot 01.**

Select SEQ on the NOTE lane. Mute the other slots while learning; double-click a slot to toggle its mute.

3. **Start the clock.**

Start the DAW transport. In the standalone app, use Play while the clock reads INT.

4. **Find a rhythm.**

Choose Euclidean from the NOTE algorithm menu. Set STEPS to 16 and PROB to 100. Move HITS, then DENSE, and listen to the spacing.

5. **Give it a pitch range.**

Choose a root with R and a scale with S. Keep OCT- and OCT+ equal for one octave. Leave C at no chord for a simple melody.

6. **Keep the version.**

Press QUICKSAVE to save a part in the current pattern. Change one control, save another part, and use the header arrows to compare them.

No sound yet?

Look at the MIDI output activity. If events are leaving VEKTE, check the receiving instrument's input port, MIDI channel and monitoring. The VEKTE track itself produces no audio.

Install & choose a format.

Desktop 1.3.0.

PLATFORM	WHAT THE INSTALLER SUPPLIES
macOS 11+	Universal Intel / Apple Silicon VST3, standalone app and an AUv3 MIDI effect embedded in VEKTE.app.
Windows x64	VST3 plugin and standalone app. The installer also supplies the required WebView2 and Visual C++ runtime installers.

Get the current installer from valdlabs.com/vekte. Quit your host during installation, then reopen it and rescan plugins if necessary. Complete the access prompt inside VEKTE if one appears.

On macOS

The VST3 goes in the system plugin folder. Keep **VEKTE.app** in Applications: it contains the AUv3 extension used by Logic. Open the app once if the extension has not appeared, then restart the host.

VST3: `/Library/Audio/Plug-Ins/VST3/VEKTE.vst3`

App + AUv3 container: `/Applications/VEKTE.app`

On Windows

Use a 64-bit VST3 host and allow the runtime installation to finish. The installer puts the plugin in Common Files and the standalone app in Program Files / VEKTE, with a Start menu shortcut.

`C:\Program Files\Common Files\VST3\VEKTE.vst3`

AUv3 is a MIDI effect

In Logic, look in the MIDI FX slot above your synth. VEKTE is not a synth to load in the Instrument slot, and this release is not a classic AUv2 MIDI-output plugin.

Activate your copy.

Use your VEKTE purchase email and licence key.

1. Open Licence...

Use the side menu, or the activation window shown after What's New on an unlicensed launch.

2. Enter your email and key.

Use the purchase email and the complete VLD1- licence key. Paste key helps when the host intercepts shortcuts. Click Activate.

3. Continue offline.

A valid VEKTE licence is verified on your computer. It has no demo timer and remains valid when beta testing closes.

Product-specific keys

A Tresse licence does not unlock VEKTE, and a VEKTE licence does not unlock Tresse. VKC and VKR musical sharing keys are not licence keys.

Access in 1.3.0

Version 1.3.0 has no demo mode. Use a purchased licence or an approved beta account. Existing testers can log in while their beta is active; new testers request access at beta@valdlabs.com. Purchased licences continue to work offline after beta testing ends.

The identity row below the logo shows FULL and a masked email for licensed users. Click that row to view your saved licence key. The licence window clearly shows Licensed and offers Change licence; your current key stays active until a replacement validates. Contact hello@valdlabs.com for help.

AUv3 and key recovery

The macOS AUv3 stores its licence in a separate sandbox. Enter the same purchase email and key there when prompted. Lost key needs an internet connection; verification of an existing valid key does not.

Meet the sequencer.

Sixteen slots, each with a NOTE lane and four modulation lanes.

AREA	WHAT IT DOES
Header	Transport, clock, combined I/O activity, CPU and access status. Cycle estimates when active clocks align. Click it for details.
Slots 01–16	Choose the slot to edit. Slots can run together; choosing one does not solo it. Double-click a slot to toggle its mute.
NOTE	SEQ generates pitched patterns, KIT addresses drum rows, and ARP responds to incoming notes. OUT chooses a MIDI channel or an internal ARP destination.
MOD 1–4 / LFO 1–4	Each lane has a sequenced MOD source and an LFO. They can run together with separate destinations. The lane's main ON switch gates both.
PRESETS	Browse sets, songs and presets; save, duplicate, move and recall material. Double-click a preset row to load; double-click its name to rename.
Side menu	Initialise, Randomize Slot / Song, sharing and files, MIDI output, Licence, manual and What's New.

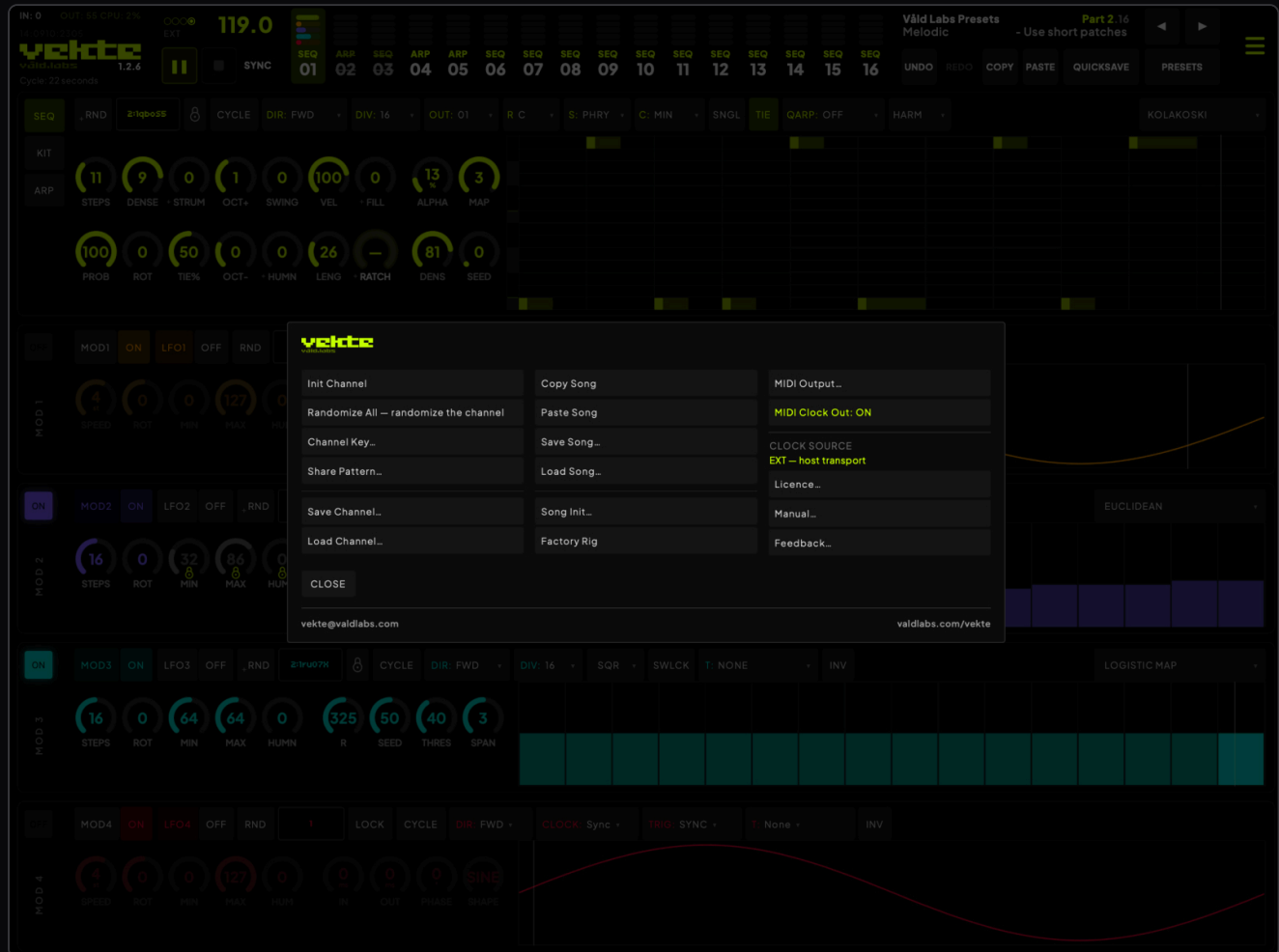
Secondary controls

A small + marks a knob with secondary functions. Green means a hidden setting differs from its default. Right-click to choose a function, read Explain, or Initialize all parameters for that knob.

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The side menu.

Files, MIDI output, access and help.



The side menu open over the sequencer.

Open the menu in the top-right corner to reach file and sharing actions, MIDI output, Licence and help. The menu also includes What's New and separate Randomize Slot and Randomize Song actions.

Supplied 1.2.6 interface example.

Use the controls.

Edit a setting, choose a secondary function, or connect a source.

Drag a knob vertically. Hold Shift for finer desktop movement. Click to select a knob, then use the arrow keys for small changes. Double-click resets its value. Right-click or long-press opens its menu. Hover on desktop for a tooltip; choose Explain for more detail.

MENU ITEM / INDICATOR	MEANING
Explain	Read the control's role and interactions.
Initialize all	Reset the knob's primary and secondary musical settings together. Modulation connections, CC bindings and locks remain.
Reset	Reset the addressed control.
Assign to...	Choose a slot and MOD or LFO source to control the parameter.
Assigned mods	Inspect incoming connections; each x removes its named connection.
Learn CC / Set CC# / Clear CC	Connect or disconnect an incoming MIDI controller.
Lock	Protect the authored setting from randomization.
Small + / green +	A + marks secondary functions. Green means a hidden setting differs from its default.

Views and settings

Choosing a different secondary function only changes which control is displayed. Returning from FILL to APPR leaves the saved Fill amount active.

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Shape the notes.

The algorithm supplies material; the lane makes it playable.

CONTROL	USE
Algorithm / P1-P4	Choose one of 41 generators and adjust its four named parameters. Their names change with the algorithm.
STEPS / ROT	Set a 1-32-step playback window and rotate it. The generated source has 32 steps.
DENSE / PROB	DENSE changes the stored set of sounding steps. PROB controls whether an active step plays on a pass. Use PROB 100 while comparing patterns.
R / S / C	Choose root, scale and chord. OCT- / OCT+ set an inclusive octave range; equal values use one octave.
VEL	Base velocity from 1 to 127.
LENG	Turn right for a free gate percentage; turn left for a musical duration. The centre readout shows the selected percentage or fraction. TIE takes over the sustained connection when enabled.
OUT	Send to MIDI channel 1-16 or an internal receiving ARP slot.

Incoming modulation can move a control's live value. A coloured dot identifies movement; remove the corresponding connection in Assigned mods when you want to edit the value without that source.

Edit the piano roll.

Keep a phrase, then let the rest change.

Click or drag in the note grid to change the pattern. The trigger strip controls whether a step sounds; dragging an existing note changes its pitch. The visible pitch rows follow the selected scale. Choose **S:** **NONE** for chromatic editing.

Protect a particular note

1. Right-click its step and choose **Lock**.
2. The white outline identifies the protected step.
3. Try RND, a different algorithm or DENSE. The surrounding material can change while the locked step stays.
4. Use the step's menu to unlock it, or choose Unlock all when available.

A locked step keeps its pitch even when the scale or octave range changes. Its position also sets a lower limit on STEPS, and locked sounding notes set a floor for DENSE.

WHAT YOU SEE	WHAT IT MEANS
Note body / tail	Pitch and gate duration. TIE can extend the tail towards the next note.
Small, dim notes in a gap	APPROACH or FILL pickups.
Shifted note starts	SWING or HUMN has moved the timing.
A note omitted this pass	PROB can skip an otherwise active step.

Save the project for the complete working state

Per-step lock flags are saved with project state. A share key is useful for musical material, but should not replace your project backup.

Length, speed & direction.

Independent clocks turn a short phrase into a longer structure.

CONTROL	WHAT CHANGES
DIV	Duration of one lane step, from fast subdivisions to long multi-bar steps. Every lane has its own division.
STEPS	Length of the playback window. Try a 15-step MOD pattern beside a 16-step NOTE pattern.
ROT / CYCLE	ROT shifts the pattern. The lane's CYCLE switch applies rotation again each cycle, making its emphasis migrate.
DIR	Forward, Reverse, Ping-Pong, quantized reverse / ping-pong, and random or wandering traversals.
Quantized reverse	Reverses step order while time inside each step still moves forward. This differs from continuously reversing the whole timeline.
SWING / Humanizer	Shift onsets or add timing variation. Note starts and ties follow the actual humanized onset.

Two STEPS controls

An algorithm's own Steps parameter shapes the generated source. The main lane STEPS chooses how much of the source plays. The Cycle duration below the logo is a separate alignment readout.

Give each lane its own clock.

NOTE, MOD and LFO can run in Sync, Hz, Audio or WTFO.

CONTROL / CHOICE	USE
Sync	Follow tempo and the lane's musical DIV. Different divisions and step counts make related loops meet at different times.
Hz	Run freely at a frequency. NOTE/MOD frequency means complete lane cycles per second, rather than individual steps.
Audio	Use the higher frequency range. MIDI remains a stream of control and note messages; VEKTE produces no audio signal.
WTFO	Choose very slow cycles from 10 minutes to 1,000 years. Playback continues while a cycle unfolds.

Set NOTE or MOD speed

Outside Sync, the DIV field becomes a direct speed control. Drag or swipe vertically, use the arrow keys, or hold Shift for fine adjustment. LFO has its own SPEED and multiplier controls.

MODs and LFOs can also take over NOTE, MOD and LFO transport positions. Removing a position assignment returns that transport to its clock.

Starting inside a note

Starting or seeking inside a note or TIE plays its full original duration. Ordinary parameter changes do not retrigger the covering note. Slow clocks and reverse playback retain their note articulation.

Choose a path through the pattern.

Direction changes traversal; DIV sets the clock speed.

DIRECTION	BEHAVIOUR
Forward	Read from beginning to end, then wrap.
Reverse	Move backward through the pattern and through motion within its cells.
Quantized Reverse	Read cells in reverse order while motion inside each cell continues forward.
Ping-Pong	Travel to one end and back. Inner motion follows the travel direction.
Quantized Ping-Pong	Alternate cell order at the ends; keep inner motion forward.
Random	Select a position at each advance, with repeats and jumps.
Brownian Walk	Wander between neighbouring positions.
Random Skip	Move mainly forward, with occasional jumps.
Bounce - 4 steps	Bounce within a short window, then move that window onward.

ROT shifts the material within the playback window. CYCLE adds that rotation again at each cycle boundary. With ROT at zero, there is no accumulated shift.

Quantized traversal

Quantized Reverse and Quantized Ping-Pong describe movement inside cells. Length and Ratchet timing have their own duration grids; Strum uses its Free/Quantized context choice.

Make the phrase speak.

Shape duration, repeat a whole note, or add attacks inside it.

CONTROL / CHOICE	USE
LENG	Choose a musical duration on the left or a free gate percentage on the right. The next actual note bounds the sounding window.
TIE	Extend toward the next actual note onset, including humanized timing. Left selects quantized relative duration; right selects a free percentage. Zero is neutral.
Ratchet	Add up to 32 attacks inside the parent event. Choose Distributed or Sequential spacing, then shape gates and decay.
Repeat	Play a main note 1–16 times before advancing. Each play restarts its full articulation and lasts through the gap to the next main note.
STRUM	Spread chord voices with one amount knob. Choose Free or Quantized in its context menu. The sign chooses voice order.
Quick Arp	Play an inner phrase within the note or tie. QARP owns the inner attacks when enabled.
F.QNT	Snap final note starts to a chosen grid, including when the parent timing is free.

Two kinds of repetition

Ratchet divides an event into attacks. Repeat returns the transport to the main note and plays its complete event again. Select Ratchet or Repeat in the RATCH context menu.

Set the gate and the connection.

Length shapes ordinary gates; TIE reaches toward the next note.

CONTROL / CHOICE	USE
LENGTH: quantized	Turn left to select musical fractions, triplets and fine divisions, with long durations up to 32 bars.
LENGTH: free	Turn right for a gate percentage. At a quarter-note division, 50% gives an eighth-note gate, subject to the available note window.
TIE: quantized	Turn left for a relative duration snapped to a musical grid. The amount is relative to the next actual onset.
TIE: free	Turn right for a continuous percentage of that same interval. At 100%, the tail meets the next onset; lower amounts leave a gap.
TIE: zero	Neutral: ordinary Length controls the gate.
TIE modulation	MOD/LFO bounds are bipolar and use the same left-quantized/right-free direction. Remove or mute the assignment to restore the saved amount.

TIE follows the next actual main onset, including humanization. With Ratchet enabled, the finite burst plays first and its last hit can sustain through the remaining tail. Length still shapes earlier ratchet hits and Quick Arp gates.

No overlapping main notes

The next actual note caps the event. Long durations and ties cannot extend a main note through the following note.

Put final starts on a grid.

F.QNT acts after the phrase's timing functions.

Choose F.QNT to snap final note starts to a forced musical grid, even when their parent timing is free. Its duration choices use the wide DIV range.

CONTROL / CHOICE	USE
Onsets	Move final starts onto the selected grid after timing changes such as Swing or humanization.
Duration	Shift note-offs with their starts to preserve the authored duration within the available window.
Next note	Shorten a duration when necessary to prevent overlap with the next main note.
Repeat and free clocks	The grid keeps advancing with Repeat, fractional tempos and free clocks; it does not require Sync mode.

Note heads, tails and playhead drawing show the playing articulation. Stop and mute release notes immediately.

Timing choices have separate jobs

LENGTH sets sounding duration. TIE connects toward the next actual onset. QSWING quantizes Swing itself. F.QNT applies the final start grid.

Spread the chord voices.

One STRUM amount controls voice order and spacing.

Turn STRUM away from zero to spread the chord voices. Its sign chooses their order; its magnitude sets the spacing. At zero, the voices start together.

CONTROL / CHOICE	USE
Free / Quantized	Open the STRUM context menu. Free uses continuous spacing; Quantized snaps the same amount knob to musical durations.
Velocity Decay	Reduce the velocity of successive voices. The marker fill fades with velocity; black outer and green inner outlines show each start.
Strum Humanizer	Vary the voice spacing independently of the main-note timing.
Follow Ratchet: on	Each ratchet attack performs its own strum sweep.
Follow Ratchet: off	Voices enter across the parent event. Later ratchets attack the voices that have already entered.

Voices stay inside their owning event. Reverse playback keeps the spread, and delayed voices retain their captured articulation. Repeat restarts the complete strum group on every play.

One amount knob

The separate Strum timing knob and Strum Length Decay have been removed. Use the main STRUM knob, its Free/Quantized choice and Velocity Decay.

Count and space the attacks.

Up to 32 hits inside one parent note.

RATCH sets total attacks, up to 32. Zero and one add no extra hits; the main note still plays. Select Ratchet in the RATCH context menu when comparing these settings.

CONTROL / CHOICE	USE
Distributed	Spread attack starts across one main note-division interval.
Sequential / R.LEN	Set spacing as a percentage of the main division. Four hits at 25% of a quarter-note division begin a sixteenth note apart.
R.TIME	Explicit spacing takes priority over Distributed/Sequential. Turn left for musical fractions and right for free spacing. Moving outward lengthens the gaps.
LENG	Set the sounding gate within each hit interval.
Velocity / Length Decay	Reduce successive attacks' velocity or sounding length independently.
TIE	After the finite burst, the final hit can sustain through the remaining tail.

Overlong spacing compresses all selected hits inside the parent note. The next actual main-note onset caps the event. Ratchet works with transport-position modulation; attacks are drawn in the transport.

Quick Arp owns inner attacks

QARP can operate in the same phrase, but takes priority for the inner attacks when enabled. Disable it to hear Ratchet spacing by itself.

Play the note again before moving on.

Repeat replays the whole main event, including its silent gap.

1. **Select Repeat.**

Open the RATCH context menu and choose Repeat instead of Ratchet.

2. **Set total plays.**

Choose 1–16. One plays the note once; zero turns extra plays off. Set individual counts from note context menus.

3. **Watch the return.**

Each play lasts to the next main-note onset, including any silence, then the transport rewinds to the note's beginning. The REPEAT knob shows current/total progress.

Every play restarts the full TIE, Strum group and articulation. Strummed voices follow the main note's count. Repeat follows live count and speed changes during the current note, including reverse playback, free clocks, F.QNT and transport-position modulation.

Modulate the count

Assign a MOD or LFO to Repeat Count. A positive modulated count enables Repeat even if the saved knob is zero; a modulated zero turns it off. Muting or removing the source restores the saved knob setting.

Try 2, 1, 5

Give three notes those total-play counts. Leave a gap before the second note to hear how Repeat includes the silent space in each replay.

Give each attack a feel.

Independent amounts for notes, pickups, chord voices and repeats.

CONTROL / CHOICE	USE
HUMN	Vary main-note timing. Turn left for quantized variation, right for free variation; zero is neutral.
A.HMN	Vary Approach amount at eligible pitch changes, affecting pickup chance and count. It leaves Fill amount and main-note starts unchanged.
S.HMN	Vary Strum voice spacing. Negative values vary gaps inside a sweep; positive values vary the overall spacing between notes while keeping each sweep even.
R.HMN	Vary Ratchet spacing. Negative values vary individual gaps; positive values vary spacing between notes while keeping equal gaps within each burst.
V.HMN	Vary attack velocity independently.
SW.HMN	In the HUMN context menu, vary offbeat Swing amount. Left uses quantized variation; right uses free variation. Zero leaves Swing unchanged.

Each humanizer has its own amount and interaction with the relevant timing grid. Keep the note window spacious while comparing settings. F.QNT takes final priority over note-start timing.

Start with one kind of movement

Use a small amount on a slow phrase, then add the next humanizer once its effect is clear.

Connect the gaps.

Approach leads into a note; Fill spreads pickups through a gap.

Approach

Groups up to three pickup notes near the next main onset. Raise it for a short lead-in.

Fill

Spreads up to three pickups across the available empty space. Raise it for a wider bridge.

Both require a pitch change and a gap between the current note or tie and the next onset. A full-length tie leaves no gap. If both amounts are active, the larger wins; Fill wins equal amounts.

SECONDARY OPTION	USE
Duration: Fill	Each pickup fills its allocated window.
Duration: Length	Caps each pickup's gate at the selected Length.
Mono / Chord	Use single pickup notes or the current chord voices.
Follow Strum	Applies Strum and its humanizer to chord pickups.
Follow Ratchet	Uses the repeat count and timing inside each pickup window. Quick Arp takes priority when enabled.

Try it

Make a sparse SEQ phrase with changing pitches. Shorten Length, keep TIE off, and raise Approach. Switch the knob's context-menu view to Fill and compare. If nothing changes, check the available gap, pitch change and modulation assignments.

Set the pitch boundaries.

Root, chord, scale and the receiving ARP’s three harmony choices.

R chooses root, S chooses scale and C chooses chord. OCT– and OCT+ set an inclusive octave span; equal values keep a generated SEQ phrase within one octave. SNGL uses the base pitch for each main note while retaining the chosen chord.

HARM in ARP mode

CHOICE	RESULT
Scale / chord	Use an available parent chord or keep generated intervals; alternatively quantize the final notes to this slot’s root and scale.
Note source	Use the lowest held input or parent note as a root plus this slot’s pattern, or select base pitches directly from the held notes.
Octave range	Start at the incoming note and retain this slot’s generated span, or fold pitches by whole octaves into this slot’s OCT– / OCT+ window.

The three choices work together. Root-plus-pattern adds a generated contour; held-notes mode selects from the incoming note set. Folding preserves pitch classes while moving them into the receiving range. The rule also applies to chord and Quick Arp voices.

A practical starting point

Send a low held chord into ARP. Choose held notes and fold into a narrow receiving octave window. Then compare root-plus-pattern to hear its melodic contour added to the input root.

Scale versus tuning

The scale catalogue supplies MIDI note sets. A microtonal scale name does not configure the receiving synth’s tuning. Smooth Pitch uses MIDI bend; match its bend range at the receiver.

Move the phrase within its scale.

DEG, NOTE INV, root targets and chord mapping.

CONTROL / CHOICE	USE
DEG	In the root context menu, transpose notes and chord tones by scale degree while ROOT and SCALE stay fixed. In D Dorian, +1 moves D-F-A to E-G-B. Negative values move downward; zero preserves the phrase.
NOTE INV	Mirror the NOTE pitch pattern vertically in its octave window while respecting the scale, then apply DEG. Chord voices follow the reflection. In KIT, INV reverses sound rows.
Root Note All	Modulate through all twelve chromatic root notes. The selected scale stays unchanged.
Root Note Quantized	Modulate the root only through notes of the selected scale. The root menu groups In scale and Outside scale choices; all roots remain selectable.
Bottom-up chord mapping	In HARM, map distinct generated pitches to incoming chord notes from lowest upward, continuing into higher octaves.
Legacy mapping	Retain the earlier chord mapping. Existing presets keep this choice until changed.

A useful comparison

Hold a low chord in ARP, compare Bottom-up and Legacy, then move DEG by one step. Keep the root and scale fixed to hear the difference.

Choose a pitch collection.

The 73 scale labels, grouped as they appear in the menu.

FAMILY	LABELS
Diatonic / Modes	NONE, MAJR, NMIN, DORI, MIXO, PHRY, LYDI, ION, AEOL, LOCR
Pentatonic / Blues	MPEN, MPNM, BLUE, HIRA, INSC, INSN, IWAT, YO
Minor variants	HMNR, MMIN, MMIA, HARM, LOC6, MLOC, SLOC, ALTD
Major variants	HMJR, PHRD, LYD7, ACST, LYDA, LYDD
Symmetric / Synthetic	CHRM, WTON, UKDR, ADON, BBDO, BBMJ, HDIM, OCTA, ISTR, AUGM, PROM, TRIT, 2STT
World / Exotic	PELO, SLEN, GYPS, HUGY, HUMN, HUMA, ALGR, PERS, HAWA, VSHM, DBHR
Greek / Tritone	ENIG, NPMA, NPMI, SCHM, DLTA, ALPH, BETA, GAMM, BOHP, EFGN, NPYT
Microtonal / xET	15ET, 16ET, 17ET, 19ET, 21ET, QTRT

NONE permits chromatic editing. All entries select MIDI note collections. Configure the receiving instrument separately for its tuning.

Add voices to a note.

The 39 chord choices include the single-note option.

FAMILY	CHOICES
No chord	---: retain a single main pitch.
Major	MAJ, MAJ7, MAJ9, MAJ11, MAJ13, MAJ7#11, 6, 6/9, ADD9, ADD11
Minor	MIN, MIN7, MIN9, MIN11, MIN13, MINMAJ7, MIN6, MIN6/9, M6, MINADD9
Dominant	7, 9, 11, 13, 7b5, 7#5, 7b9, 7#9, 7SUS4
Suspended / Power / Quartal	SUS4, SUS2, 5, POW, QRT
Diminished / Augmented	DIM, DIM7, M7b5, AUG

Use a triad for a clear harmonic outline, an extended chord for a wider colour, or a fifth for an open voicing. STRUM spreads the voices; QARP can traverse them.

Constrain the final voices

In ARP mode, HARM → Quantize to this slot’s root + scale constrains the final output, including chord and Quick Arp voices.

Four lanes of movement.

Each lane can run a step sequencer and an LFO together.

1. **Enable the lane.**

Its main ON switch controls both sources. Enable MOD, LFO or both within the lane.

2. **Choose destinations.**

Start with Velocity or Length. Every MOD and LFO can control up to 32 destinations, including several different CC numbers.

3. **Shape the MOD pattern.**

Choose an algorithm, its parameters, STEPS, DIV and direction independently of the NOTE lane.

4. **Limit the range.**

MIN and MAX map its values into the chosen destination range. Matching values give a constant output.

SWLCK follows NOTE swing and humanization timing. With it off, the MOD has its own timing. INV reverses the source. Choose None to remove all destinations from that source. Each red x removes only its named connection.

A lock does not disconnect

Randomization locks protect settings during a roll. Modulation, MIDI CC and host automation can still move them. Remove the assigned source to stop that movement.

Shape a continuous movement.

An LFO for each of the four modulation lanes.

WTFO means What The Frequency Oscillator. It is the very slow clock mode: use it for changes that unfold over a long session, or let it drift alongside faster patterns.

CONTROL	USE
SHAPE	SINE, TRI, SAW+, SAW– or SQR.
CLOCK / SPEED	Sync follows musical time; Hz runs freely; Audio offers higher oscillator rates; WTFO offers very slow cycles.
MULT	Divide or multiply Speed up to 16 times. Negative values divide; positive values multiply; zero leaves it unchanged. The graph shows the resulting waveform density.
MIN / MAX / INV	Limit the output range and reverse its direction.
Phase / Rotation	Choose the waveform's starting position or offset.
IN / OUT	Fade modulation in or out over 0–60 seconds when its gate opens or closes. These are modulation fades, not audio volume envelopes.

Hear the multiplier

Choose a one-bar Sync cycle. $\div 2$ takes two bars; $\times 2$ takes half a bar. Connect the LFO to a filter CC and compare the sweep.

Fast and slow movement

Audio sets the oscillator rate. Outgoing MIDI modulation updates at 192 pulses per quarter note; it does not send an audio modulation signal. WTFO sets a base cycle from 10 minutes to 1000 years. You hear its current position as you play; you do not have to wait for a complete cycle.

Set the oscillator's time scale.

Speed chooses the base rate; MULT divides or multiplies it.

CLOCK	BASE RANGE / USE
Sync	Tempo-linked musical durations, extending through 512 bars.
Hz	Free frequency through 20 Hz.
Audio	Oscillator frequencies through 44.1 kHz. MIDI output retains its control update cadence.
WTFO	Base cycles from 10 minutes to 1000 years.

MULT runs from division by 16 to multiplication by 16. Negative values divide; positive values multiply. Zero and ± 1 leave the base rate unchanged. The same multiplier applies to all clocks and note-pitch following.

PHASE offsets the start by 0–359°. ROT offsets the waveform in cycle divisions; CYCLE adds that rotation again on each cycle. DIR chooses Forward, Reverse or Ping-Pong.

HUM adds smooth, repeatable waveform variation. RND reshapes the oscillator while retaining its connections, changing settings such as shape, phase, rotation, humanization and multiplier.

WTFO in practice

Choose a ten-minute cycle and a narrow filter-CC range for gradual changes across a session. Longer cycles move less during the same listening time. Playback starts with the oscillator's current value.

Let notes drive the LFO.

Choose what opens its gate and what happens to phase.

TRIGGER / CONTROL	BEHAVIOUR
Sync	Runs with the selected clock and transport gate.
Note Restart	Restarts phase on each actual played note-on, including strum voices, ratchets, pickups and Quick Arp attacks.
Note Latch	Advances while played notes are sounding. Holds phase after all notes release, then resumes from that position on the next note.
Note pitch	Uses the played pitch to set LFO speed. This is separate from restarting or holding phase.
Step / Start	Reset phase at each main step or with the transport.
Assigned Transport position	Scans waveform phase directly and takes priority over its clock. Removing the assignment returns to clocked motion.

IN and OUT follow the selected gate. In Note Latch, the released phase stays held while its output fades. Restart can produce many resets in a strummed or ratcheted chord, because each played attack counts.

Lane ON is the master

The lane's main ON switch must be enabled for either MOD or LFO output. A visible waveform alone does not mean a destination is receiving modulation.

Steps, ramps & curves.

Change the motion between values without changing the pattern.

SHAPE	MOTION
SQR	Holds each value until the next step. Good for clear changes and rhythmic switches.
RMP	Ramps towards the next value.
TRI	Rises and falls through the step.
CRV	Smoothly interpolates the values. Useful for sweeps and bends.
MIX	Chooses shapes according to the local pattern: peaks, slopes and plateaus behave differently.
RND	Adds repeatable random movement inside the corridor between neighbouring values. Its sub-shapes change how those internal moves connect.

The division pill

TRI, CRV, MIX and RND offer 1 or $\div 2$ through $\div 32$. This adds movement inside each lane step. A slow lane can therefore carry a faster repeated motion without reducing its main step division.

RND sub-shapes

STEP holds internal values. TRI connects them with straight lines. CURVE makes smooth connections within the local range. RAMP adds irregularity to gliding motion.

Read the guides

Quantised destinations show horizontal bands. A smooth curve crossing a band changes a discrete setting, such as Direction or Note Div. Bipolar destinations show a centre line so positive and negative values are visible.

Smooth control, discrete destination

A curve cannot make a discrete choice continuous. Scale, chord, direction and division still switch between available settings. For continuous movement, try a suitable CC or PITCH bend target.

Choose what moves.

One source can control several destinations.

TARGET FAMILY	EXAMPLES
Performance / pitch	Velocity, Length, MIDI CC, transpose, scale, chord, octave and pitch bend.
Articulation	Tie, Approach, Fill, Strum, Ratchet, timing and humanizers.
Pattern / algorithm	Steps, rotation, density, probability and current algorithm P1–P4 for NOTE or MOD lanes.
Clock / transport	Division, direction, run/stop and transport position for NOTE, MOD and LFO.

Add and remove connections

Choose a target, then reopen the menu to add another. Connected destinations appear above None, each with a red x. A source can send several numbered MIDI CCs at once.

Knob menus show **Assigned mods** for every function, for example “Ratchet length: MOD1 SEQ1”. Remove only the connection you choose. Reassigning an occupied parameter replaces that connection while retaining the source’s other destinations.

Self and other slots

Self connections follow a preset when it loads into another slot. Explicit cross-slot connections address another slot; keep a full-song or project file when those relationships matter.

Pitch bend is channel-wide

PITCH uses MIDI bend. Match the receiving instrument’s bend range to VEKTE’s setting; every note on that MIDI channel bends together.

See how the movement is connected.

MOD/LFO Explorer shows sources, destinations and live values.

Open **MOD/LFO Explorer** from the main menu or a control's context menu. Use it to follow a source through its destinations or find which source moves a parameter.

CONTROL / CHOICE	USE
Inspect	Read every source and destination together with the live value and activity.
Solo	Isolate an individual connection to hear its contribution.
Mute	Temporarily silence a connection while keeping it available to restore.
Delete	Remove the selected connection.
Remove all	Clear all connections after confirmation.

Each bank can run MOD and LFO together with independent destinations. Its main ON switch controls both. Each source can control several parameters or separate MIDI CC numbers.

Remove one connection

In a source menu, assigned destinations appear above None. The red x removes only that connection; None clears that source's destinations. Knob menus also list incoming assignments.

Connect the right kind of movement.

Every destination interprets the source within its own range.

TARGET	MEANING
Transpose / Root	Change the slot's root reference.
Pitch	Send scale-stepped MIDI pitch bend.
Smooth Pitch	Send continuous MIDI pitch bend.
Scale / Chord / Algorithm	Select a discrete entry. A smooth source still switches between choices.
Numbered MIDI CC	Send a specific controller from 0–127. Each CC number is a separate destination.
MIN / MAX / INV	Source settings apply to all of that source's destinations.

One source can control up to 32 destinations. A destination has one controlling source: assigning another source replaces the previous connection there. Choosing None clears every connection from that source; each x removes only its named connection.

Use a destination knob's Assign to... menu to choose a source from another slot. Self connections follow a preset into its receiving slot. Save the full song or project for connections that depend on other slots.

Match the receiver

CC numbers follow the receiving instrument's mapping. Pitch bend affects all notes on its MIDI channel; match the bend range at both ends.

When do the clocks meet?

A slightly quirky way to explore the scale of your automation.

The **Cycle readout below the logotype** estimates how long the active NOTE, MOD and LFO clocks across your slots take to align again. It updates in real time as you change their settings, revealing how large the combined automation cycle can become.

It can be a creative tool in itself. Try unequal lane lengths, then add a slow WTFO: a short musical phrase can sit inside movement that unfolds over days or years. Explore those changing relationships while you play; the readout is not a countdown and never delays playback.

A simple example

A 16-step NOTE pattern and a 15-step MOD pattern at the same division return to their shared starting relationship after 240 steps. At a sixteenth-note division, that is 15 bars of 4/4.

Add a slower LFO and the alignment can take longer. Change a length, speed or multiplier and the estimate changes. Click the readout in VEKTE for its current calculation and limits.

Structure is not the whole result

Probability, changing timing, live input and movement of the settings can make this a structural estimate. It does not guarantee that every MIDI event or sound repeats exactly. The lane's CYCLE rotation switch is a separate control.

Scan a phrase with modulation.

Transport controls position; Run/Stop controls the sounding gate.

DESTINATION	BEHAVIOUR
Transport	Take over the NOTE playhead. Low source values address the start of the visible window; high values address the end.
MOD1-4 Transport	Control the addressed MOD's position. Its interpolation determines motion between values.
LFO1-4 Transport	Control waveform phase. Note gates and fades still determine whether output is active.
Run/Stop	Pause or run the destination's notes while modulation sources continue.

A ramp scans forward, a triangle scans back and forth, and a stepped source jumps between positions. Notes and tails sound at their positions; empty space stays silent. Chords, strum and ratchets belong to their events, while QARP keeps its inner clock.

Removing or disabling a position assignment returns that transport to its selected clock, including free Hz, Audio or WTFO timing.

Try a slow scan

Use a short NOTE window and a slow triangle LFO. Compare that back-and-forth reading with Run/Stop for alternating sounding and silent sections.

Build with sixteen slots.

An editing slot and an output MIDI channel are different things.

Click a header slot to edit it. **Double-click** to mute or unmute it. Muting silences its output while the playhead continues. The NOTE rail and four MOD/LFO bar pairs show activity, with dimmer LFO bars; a selected slot is not automatically a solo.

ACTION	USE
MIDI / DEST dropdown	Send this slot to MIDI channel 1–16 or an available internal ARP destination.
Right-click a slot	Copy, Paste, Init, Quicksave or Mute. Commands act on the slot you clicked.
Ctrl/Cmd + C / V	Copy or paste the channel key when a text field is not focused.
Init Channel	Clear one channel's material. Save anything useful first.
Factory Rig / Song Init	Restore the supplied 16-slot starting rig: Lisbon on slot 1 and its companion on slots 2–16. This is not a blank song.

Layer or separate

Two slots can share an output MIDI channel to layer material on one synth. Use different output channels to drive separate instruments. CC and pitch bend are channel-wide, so shared routing also shares their effect.

Start with a single receiving channel

The factory rig gives the slots different MIDI channels. An instrument listening to every channel receives the active parts together. Filter to channel 1, or mute the other slots, while setting up.

Let another part play the arp.

ARP reshapes a pattern around incoming notes.

CONTROL	BEHAVIOUR
ARP	Selects input-driven playback. Use HARM to choose an input-rooted contour or pitches from the held-note pool.
EXT / INT	EXT receives external MIDI; INT receives the internal slot bus. Choose the source for the part you want to play.
R: root readout	Follows the lowest held incoming note, including its octave.
RTRG	A new input press restarts the pattern from step 1.
LATCH	Keeps the playhead moving silently between held notes. It does not keep the sound playing after release.

SEQ into ARP

1. Put slot 2 into ARP mode and give it a simple, faster pattern.
2. Set slot 2's output to the synth's MIDI channel.
3. Select slot 1, use SEQ and choose **A02** as its destination.
4. Start playback. Slot 1 now supplies notes to slot 2 rather than sending its own notes to the external synth.

The ARP sounds only while input notes are held. Without LATCH its playhead freezes between presses; with LATCH the silent clock continues. A chord on the conducting SEQ can supply the ARP's pitch classes as its temporary scale.

A silent ARP needs an input

Check the conductor's gates, its destination and the ARP's INT / EXT source. Longer conductor gates give the ARP more time to speak. ARPs can feed other ARPs, but routing cycles are rejected.

A phrase inside a note.

Quick Arp adds detail without changing the main pattern's length.

QARP runs inside the owning main note or tie. Its division and direction are independent of the main NOTE lane. Ratchet and QARP can be used in the same phrase; QARP takes priority for the inner attacks. Length shapes the gate of each Quick Arp hit; playback stops at the parent event's end.

MODE FAMILY	BEHAVIOUR
Sequence Notes	Reads sounding sequence notes and skips rests.
Sequence True	Reads the sequence including rests.
Retrigger variants	Start the inner phrase again at each main note.
Free variants	Keep the inner phrase's phase between main notes, while sound remains limited to each owning event.
Pitch-order / random / chord	Traverse chord voices or held ARP input voices, or sound them together.

Try it on a long tie

Make a sparse melody, enable TIE and choose a faster QARP division. Compare a sequence mode with a chord-voice mode. Change QARP direction while leaving the main direction alone.

Quick Arp takes priority

When QARP is active, it owns the inner attacks instead of Ratchet. Disable QARP when testing Ratchet timing or its final tied tail.

Choose the inner phrase.

Sequence traversal and voice traversal offer different motion.

QARP MODE	BEHAVIOUR
Sequence Notes Retrigger	Read sounding sequence notes, skip rests, and restart at each main note.
Sequence Notes Free	Read sounding notes and retain inner phase between main notes.
Sequence True Retrigger	Read all positions, including rests, and restart at each main note.
Sequence True Free	Read all positions and retain phase between main notes.
Up / Down	Traverse available voices upwards or downwards.
Up / Down · Down / Up	Alternate the two voice orders.
Order	Use the available voice order, including played-note order with ARP input.
Random	Select voices with repeatable random traversal.
Chord	Play the available voices together at QARP attacks.

Voice modes use the selected chord or held ARP input. QARP DIR offers Forward, Reverse, Ping-Pong, Random and Random Walk. Modes with their own voice order determine that traversal.

Free modes preserve phase between events; sound remains inside each owning note or tie. A dim second playhead marks the inner phrase.

Use a slot for drums.

One to eight rows, each with its own MIDI note.

Select KIT, choose its row count and send OUT to your drum instrument. Assign each row to a loaded pad using its note control or MIDI learn. Audition rows to check the mapping before changing the pattern.

ACTION	RESULT
Mute / Solo	Control which mapped rows can sound.
Drag a sound assignment	Swaps the two rows' note assignments. Their rhythm and mute/solo flags stay in place.
Copy / Paste	Reuse row material where offered by the row menu.
SNGL	Uses the first sound for the generated hits.
Choke	Cuts the previous kit sound when another hit begins.
KIT Quick Arp	Adds kit-specific repeated or ordered hits. It is separate from pitched Quick Arp.

A starting groove

Map a kick, snare and hi-hat, choose Breakbeat or Clave, and set PROB to 100. Adjust the algorithm's controls, then use a MOD or LFO for accents. Keep MIDI notes matched to the receiving kit.

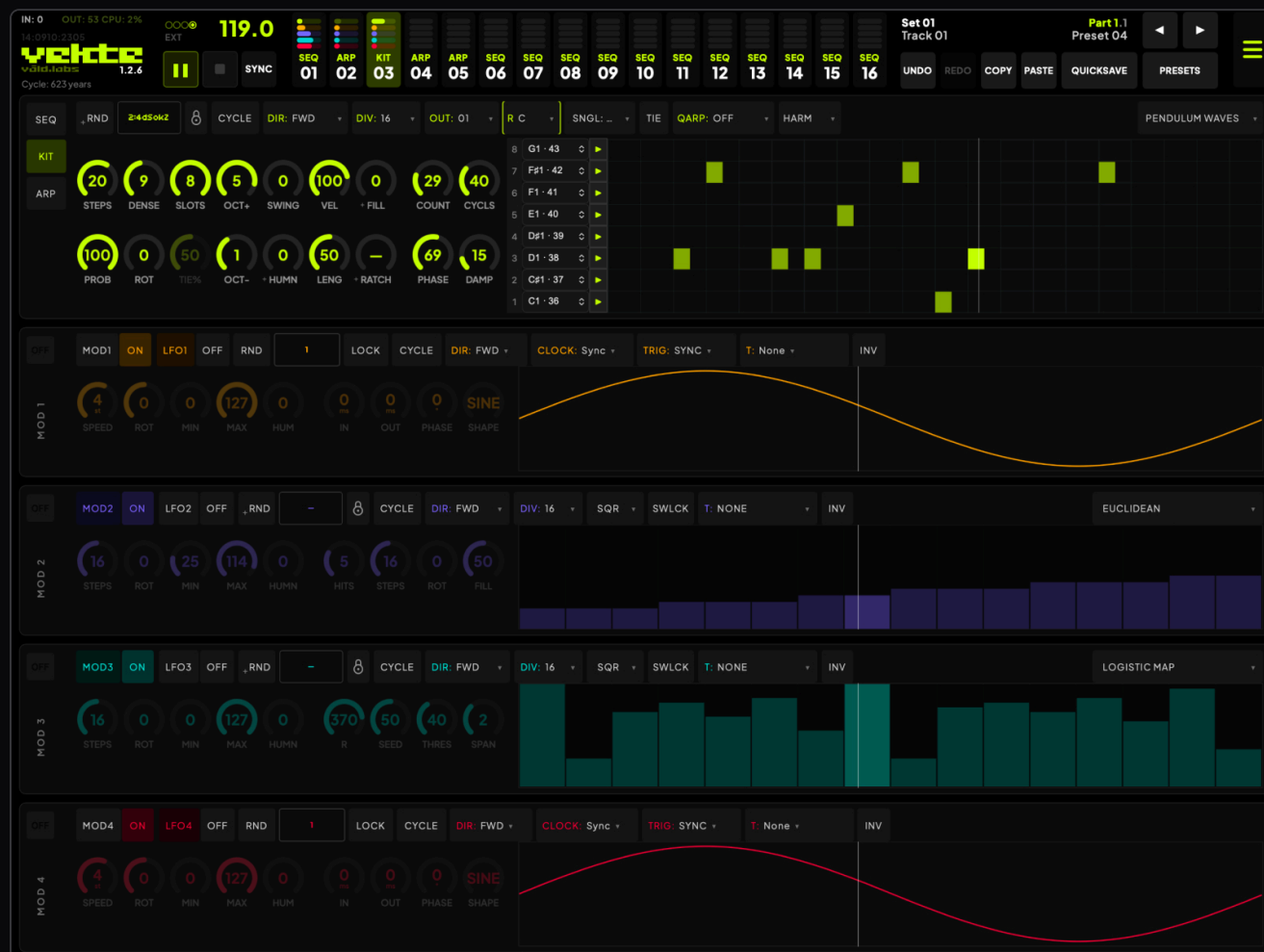
Older kit presets

Older scale-based mappings remain readable. Explicit row editing uses the row map. Approach and Fill are pitched SEQ / ARP functions.

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KIT in view.

Drum rows and their note assignments.



KIT mode with eight mapped drum rows and its generated rhythm.

Select KIT on the NOTE lane. Match the row notes to your drum instrument; the grid shows where each row plays.

Supplied 1.2.6 interface example.

Map and manage drum rows.

SLOTS chooses 1–8 active sounds; each row has its own note.

ACTION	BEHAVIOUR
Note selector	Choose the outgoing MIDI note within OCT– / OCT+. MIDI 60 is displayed as C3; MIDI 42 as F#1.
► audition	Send a short note without starting playback, including from muted rows. Use it to check pad mapping or instrument MIDI learn.
Copy note / Paste note	Transfer a sound assignment. Copy to all rows applies it across the kit.
Mute / Solo	Several solos can be active. Mute wins; hidden solo rows do not silence active rows.
Numbered handle / Alt + Up or Down	Swap sound assignments. Programmed hits and mute/solo flags stay in their rows.
Reduce SLOTS	Hide later assignments while retaining their stored notes.

SNGL and choke

Choose normal KIT, Single sound – row 1, Choke previous hit, or Single sound + choke. Choke sends note-off for the previous sound when the next hit starts; use a receiving instrument that responds to note-offs.

KIT has a separate QARP setting. Scale, chord and pitched Approach / Fill controls do not apply to its row mapping.

Get MIDI to an instrument.

Choose one clear route and check it before adding more slots.

ROUTE	WHEN TO USE IT
Host MIDI routing	The host receives VEKTE's plugin output and sends it to another instrument track. Use the host's MIDI-source controls.
macOS virtual port	VEKTE exposes a CoreMIDI port named VEKTE. Receiving tracks can select that port and an individual MIDI channel.
Windows loopback port	Create a port with loopMIDI, choose it in VEKTE's MIDI Output menu and select it on the receiving tracks.
Hardware MIDI output	Choose the interface or device in MIDI Output. Set the hardware to the same receiving channel. Its audio returns separately.

Basic check

1. Run a SEQ pattern in one unmuted slot.
2. Set that slot to a known MIDI channel.
3. Choose a single output route.
4. Set the synth's input to that source and channel; enable monitoring.
5. Confirm both VEKTE's MIDI output activity and the synth's incoming activity.

VEKTE can send to its host and an external port. Receiving both routes on the same instrument can double the notes. In standalone settings, avoid enabling a second copy of the same MIDI output alongside VEKTE's menu output.

Windows loopback utility: loopMIDI by Tobias Erichsen. It provides virtual ports between applications; keep it running while those ports are in use.

Connect it in your DAW.

The exact routing labels vary between hosts.

Logic Pro · macOS AUv3

Create a software instrument track and choose a synth. Insert VEKTE in the **MIDI FX** slot above it, then start Logic's transport. Use the AUv3 installed with VEKTE.app. For a first check, leave only one VEKTE slot active.

Ableton Live · VST3

Put VEKTE on one MIDI track and your synth on another. On the synth track, choose VEKTE's track as MIDI From, then select the plugin's output in the lower chooser. Set monitoring to In, or arm the receiving track with Auto monitoring, and start Live.

For separate parts by MIDI channel, use the **VEKTE virtual port on macOS** or a loopMIDI port on Windows. Enable Track input for that port in Live's MIDI preferences, then choose the port and required channel on each receiving track.

Other VST3 hosts

Enable MIDI output from the plugin if your host requires it. Route it to an instrument track and filter by channel where needed. VEKTE remains the note generator; the receiving instrument provides the sound.

Recording ahead of the grid in Live

If a host-synchronised VEKTE recording consistently lands early, check the track's **Keep Latency** option and try disabling it for that recording route. Compare the result before adding manual track delay.

Host references: Apple: MIDI plug-ins · Ableton: VST MIDI output · Live routing and I/O.

Decide who runs the clock.

INT and EXT show where the timing comes from.

STATE / CONTROL	MEANING
INT	VEKTE's internal clock. In the macOS standalone app, set BPM or use TAP; the tempo range is 20–300.
Play / Pause	Start or pause internal playback. Pause holds the position.
Stop	Stops and rewinds the playheads.
EXT	A host or external clock supplies timing. In a plugin, start and stop the host.
Transport under EXT	The buttons display the external transport state. They do not take control of the host.
Header arrows	Step through parts. While running, changes queue for the next bar; while stopped they apply immediately.

MIDI clock output

≡ → **MIDI Clock Out** sends 24 clock pulses per quarter note, with start, stop, continue and song position messages. It is on by default and goes to the external / mirrored MIDI port, not back into the host's own plugin MIDI stream.

Configure the receiving hardware or application to follow that port. Keep one clock leader in the setup. External clock pulse timing follows the audio block size; a smaller buffer can tighten it.

One clock leader

Choose which device supplies timing, then configure the other devices to follow its MIDI clock port.

A place for every version.

Browse sets, songs and presets.

LEVEL	USE
Set	Organise songs for a project or performance.
Song	Keep related presets and recall a complete 16-slot setup.
Preset	Keep a saved musical variation for a slot.

Select, load and rename

A single click selects a row. Use its load arrow or double-click the preset row to open it. Double-click directly on its name to rename. Selecting a set or song also chooses where Save will put a new preset.

Recall while playing

Preset changes wait for the **next bar**, with a countdown. Start now loads immediately. While stopped, loads apply immediately. MIDI BANK/PRGRM recall is experimental and not yet fully implemented.

Loading a preset restores its settings. Controls absent from that preset take their defaults. The Approach knob opens in its primary APPR view.

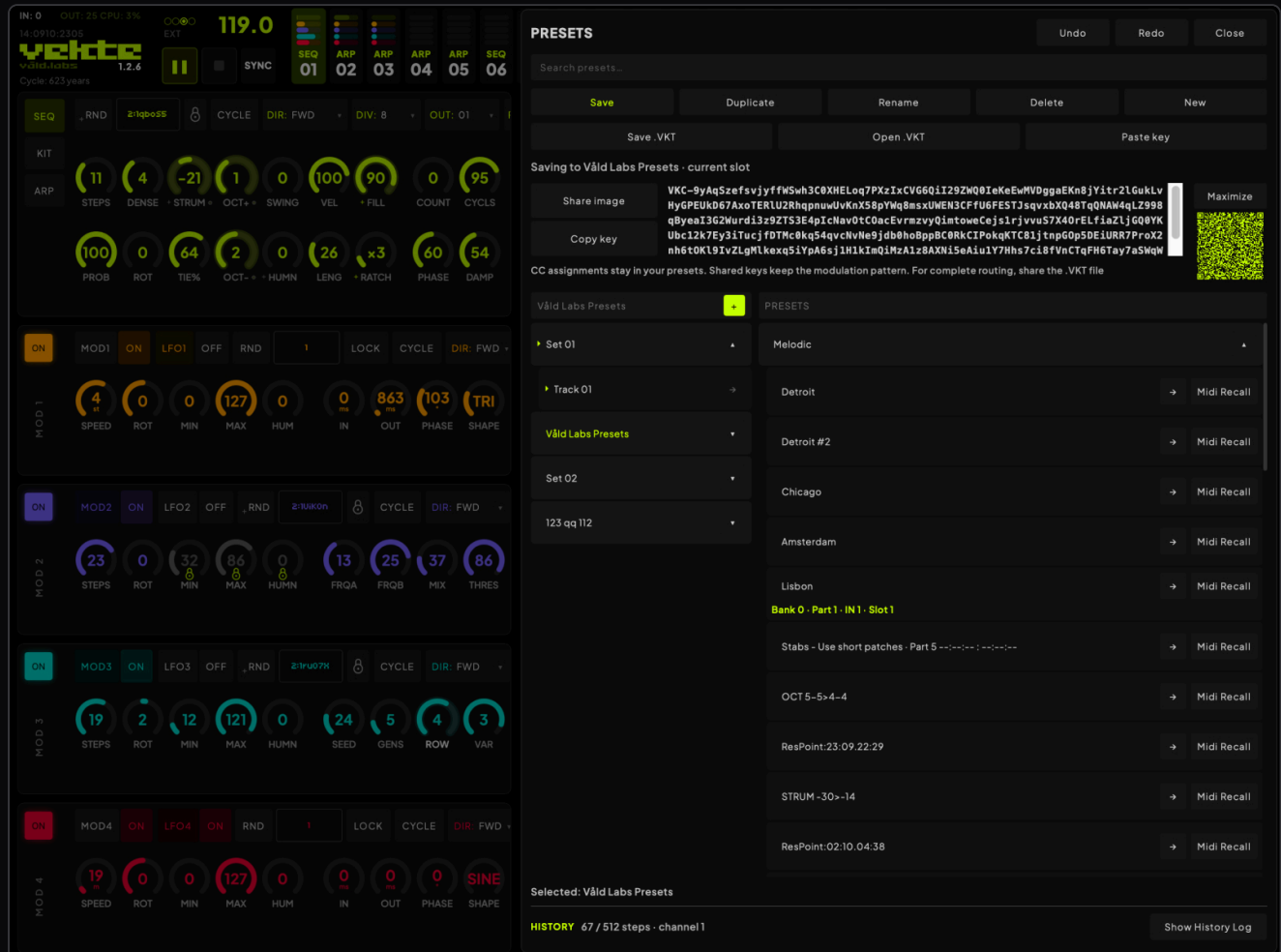
Keep a portable backup

The local shelf and the host project retain library material. Export a .VKT file for a portable copy. The macOS AUv3 has a separate sandboxed shelf.

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The preset browser.

Sets, songs, presets and MIDI recall.



The preset browser beside the sequencer, with sharing and MIDI Recall controls.

Use the left column to browse sets and songs, then choose a preset on the right. Double-click a preset row to load it; double-click its name to rename it.

Supplied 1.2.6 interface example.

Save a useful variation.

Save new ideas; replace a saved one deliberately.

1. **Choose the destination.**

Select a set or song in PRESETS.

2. **Save the current slot.**

Save creates a new preset in that destination. Give it a name that describes the variation.

3. **Use Replace when intended.**

Replace updates the selected saved preset. Ordinary knob edits do not silently replace it.

4. **Keep another copy.**

Duplicate appears below the original with a numbered name. Edit or rename it independently.

QUICKSAVE

QUICKSAVE keeps a variation in the current library destination. Choosing a song as its destination can save the whole rig; check the destination before saving. Header arrows compare saved variations, with recall queued to the next bar while playing.

A slot and a song have different scope

Use a preset for one line. Save a whole song when all sixteen slots and their routing form the idea. Save the project or a .VKT file for the complete working setup.

Move ideas around.

Rearrange the browser without rebuilding a phrase.

ACTION	RESULT
Drag a preset	Move it into another song or set.
Drag a song	Move it with its contained material into another set.
Alt / Option + drag	Copy instead of move. Check the drag indicator.
Copy / Cut / Paste	Rearrange library items using the browser's clipboard actions.
Double-click a name	Rename that item. Double-click elsewhere on a preset row loads it.
Delete	Removes the selected item; deleting a container also removes its children. Use Undo to recover an accidental edit.

Build a variation bank

Save a simple bass phrase, duplicate it and make a denser version. Keep both in one song, then copy that song into another set for a performance.

Two clipboards

Library Copy / Cut / Paste rearranges items inside the instance. To transfer musical material to another instance or computer, use a share key or exported file.

Go back without guessing.

History records changes beside your saved parts.

Each channel keeps up to **512 history states** in memory. Rows name the action or parameter change that produced them. The most recent 64 states per channel are saved with the project.

ACTION	RESULT
Undo / Redo	Step back and forward through editing actions.
Show History Log	Expand the current channel's history.
Try state	Audition a state after parking current work as a return point.
ResPoint	Your current work is parked as a return-point part when needed before the first audition.
Return to current	Return from the audition to the parked state.
Quicksave recovered	Keep the recovered state as saved material.
Save as Pattern / Song / Set	Keep history material in the library at the selected scope.

Find the version from a minute ago

1. Open PRESETS and its history view.
2. Locate the change that preceded the unwanted result.
3. Choose Try state while the instrument is connected.
4. Choose Return to current to return, or Quicksave recovered to keep the discovered version.

History is a working buffer

Keep important versions as named parts and save the set or project. The full 512-entry RAM history is not a permanent archive. A ResPoint remains in the library until you remove it.

Share the material.

Keys for musical ideas; files for the complete setup.

FORMAT / ACTION	CARRIES
VKC- channel key	One slot's musical state. Choose the receiving slot before pasting.
VKR- song key	The sixteen-slot musical rig. Check destinations after whole-song recall.
Share Pattern	An image with a key and QR code. Maximize opens a larger QR for scanning. Copy text when the key is too long for a practical QR.
.VKT file	A saved setup for complete routing and portable backup. Older .vekte files remain readable.
Host project	The instance's working state alongside your DAW session.

CC assignments

Shared musical keys preserve the modulation pattern while CC assignments stay in your presets. For complete routing, share the **.VKT file**.

Connections between slots

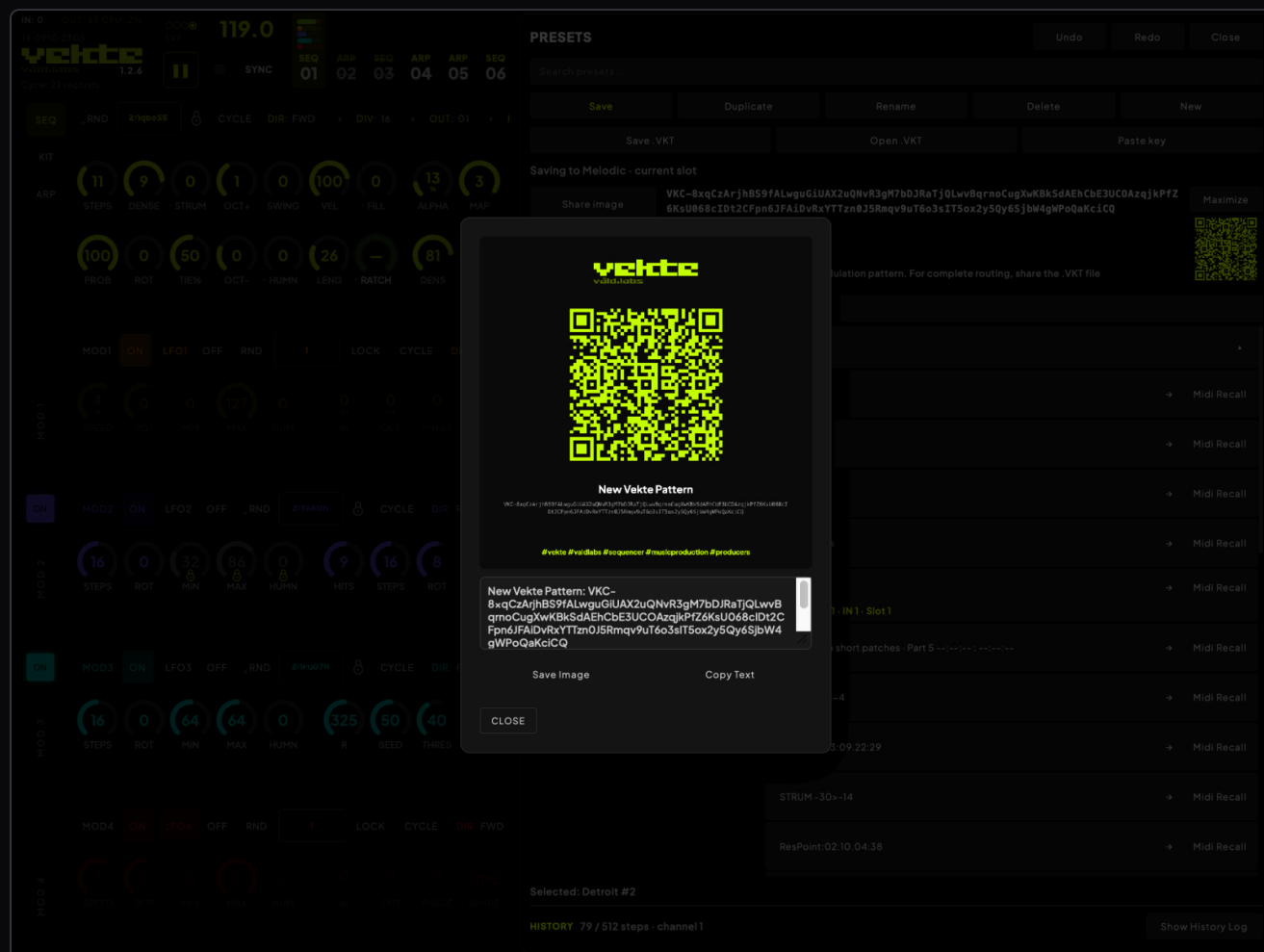
Self connections move with a preset into its receiving slot. Explicit connections to other slots depend on the whole setup; save the full song or project when sharing those relationships.

Keep the original

A seed alone is not a complete edited preset. Keep a .VKT or project backup and use a compatible version. Do not alter a rejected newer key's text to force it to load.

Share a pattern.

An image, a musical key and a QR code.



The Share Pattern window with its image preview, QR code and copy controls.

Save the image or copy the text to share a musical idea. For complete routing, share the .VKT file.

Supplied 1.2.6 interface example.

Explore without losing the phrase.

Set the amount, protect the essentials, then roll.

CONTROL	USE
RND	Reroll the selected lane.
Random amount	Right-click RND and turn its amount knob. Small values make gentler changes; 100% permits a full roll, including another algorithm.
Lane / control lock	Protect a whole lane or one supported setting during randomization.
Randomize Slot	Reroll the current slot's unlocked controls, including articulation and modulation settings.
Randomize Song	Reroll all sixteen slots, respecting their locks.
Seed	Open Roll Seed in the RND context menu and enter a seed in its editable text box. Use the same recipe, amount and locks. Save edited results as a full preset or key.

Try a controlled change

Save a version, lock the NOTE lane, and roll a MOD lane with a small amount. Compare with Undo or history, then save the result worth keeping.

Initialize all

A knob's context menu can reset its primary and secondary parameters together. This is different from randomizing them.

Choose how far to roll.

Random Amount controls the scope of a lane roll.

AMOUNT	LANE-ROLL BEHAVIOUR
0%	Leave the lane unchanged.
Below 50%	Reshape length and rotation; retain the algorithm.
50–69%	Introduce a gentler algorithm parameter.
70–84%	Include more parameter movement.
85–94%	Broaden the change further.
95–99%	Allow all four parameters; retain the algorithm.
100%	Allow a full roll, including a different algorithm.

Locked settings stay protected. Small amounts use the roll recipe rather than repeatedly accumulating changes from the previous result.

The lane roll-seed field reproduces a roll under the same recipe and amount. An algorithm’s SEED knob is a separate musical parameter. Manual edits mark the roll as edited because its seed alone no longer describes the whole result.

Save the result

Use a preset, musical state key, .VKT file or project for exact recall of an edited phrase. Randomize Slot and Randomize Song cover broader settings than a lane roll.

Play it from hardware.

MIDI Learn connects a physical control to VEKTE.

1. **Send the controller into VEKTE.**

Enable the MIDI input in your host or standalone settings.

2. **Choose the control.**

Right-click a knob and select Learn CC.

3. **Move the hardware knob.**

VEKTE learns the incoming controller. Use the same menu to inspect or remove the assignment.

4. **Test at a slow tempo.**

Try a useful range before combining the mapping with modulation.

Learning input versus sending output

MIDI Learn receives a CC to move VEKTE. A MOD lane with target CC sends a controller to another instrument. These are separate directions: learning one does not automatically map the other.

Host automation

Use the parameters exposed by your plugin host for automation. Host support for selecting controls differs. Avoid having a hardware assignment, a MOD lane and a host automation lane all fight over the same parameter while setting up.

Three kinds of protection

A lane lock protects a lane from rolls. A control lock protects one setting from rolls. A note-step lock protects the stored step itself, including its pitch.

Recall from a MIDI clip.

Experimental in 1.3.0; not yet fully implemented.

Experimental MIDI BANK/PRGRM

Bank/Program recall is not yet fully implemented. The fields below describe its address controls; use the preset browser for ordinary recall.

FIELD	MEANING
Bank	Zero-based address 0–16383: CC 0 × 128 + CC 32. Bank Select alone does not load.
Part	Program 1–128 in the interface. Raw MIDI Program Change is one lower, 0–127.
IN	Incoming MIDI channel, 1–16. It is the recall input, not the notes' output channel.
Slot	Receiving VEKTE slot for a single-preset recall. A whole-song recall restores all sixteen slots.
Timing	Immediate, or Next bar while playing. Choose Assign to save the address; Clear removes the assignment.

Ableton Live example

For **VEKTE Bank 4, Part 1, IN 1**, use **Live Bank 1, Sub 5, Pgm 1**, and route the clip on MIDI channel 1. For VEKTE Bank 2, use Live Bank 1, Sub 3. VEKTE displays the exact equivalent below the fields.

Click Assign, confirm Assigned, then launch the clip again. Hover over each field for its tooltip. The host must deliver the messages or program selection to VEKTE; if recall fails, inspect the input channel and routing first.

Saved address versus current fields

Changing a number does not save it until Assign is pressed. A busy host can delay preset loading.

Choose a pattern maker.

All 41 algorithms work on NOTE and MOD lanes.

On the NOTE lane, a generator supplies rhythm and pitch material. On a MOD lane, its pattern becomes a sequence of control values. The same algorithm can therefore give a bass line one character and a filter sweep another.

I WANT...	TRY
A clear rhythmic starting point	Euclidean, Bresenham, Polyrhythm.
Unequal loops turning together	Isorhythm or different STEPS lengths across lanes.
A melody that wanders	Random Walk, Drunk w/ Memory, Tether.
Related harmonic movement	Voice Leading or Tonnetz Walk.
Order becoming unstable	Logistic Map, Entropy Gradient, Turing Pattern.
Repeating structures with surprises	Thue-Morse, Kolakoski, Cantor Set, Penrose.
Physical or flowing motion	Bouncing Ball, Flocking, Pendulum Waves, Wave Interference.

The following catalogue follows the interface's families and lists each algorithm's four actual knob labels. These are starting points, not rules about which style of music each algorithm belongs to.

Listen at a steady speed first

Keep the same scale, octave range and division while comparing algorithms. Change one algorithm knob at a time, then try the pattern as modulation.

Rhythmic patterns.

Algorithm catalogue / four controls for each generator.

01 Euclidean

HITS · STEPS · ROT · FILL

A clear, evenly spaced rhythmic starting point. **HITS**: requested activity. **STEPS**: the generator's cycle size. **ROT**: its rhythmic offset. **FILL**: adds activity in gaps. Try percussion or a sparse bass pattern.

12 Polyrhythm

PA · PB · PC · VOXM

Interlocking periodic accents. **PA, PB, PC**: the three pulse periods. **VOXM**: which pulse voices participate. Try it as note rhythm or stepped accents on another part.

13 Bresenham

HITS · STEPS · OFS · SPRD

Even rhythmic distribution with a different pitch contour from Euclidean. **HITS**: activity. **STEPS**: generator cycle size. **OFS**: offset. **SPRD**: pitch/value spread. Useful when the rhythm should stay legible while pitch rises through it.

29 Run-Length

SEED · RATIO · EXP · INV

Blocks and runs of activity. **SEED**: starting pattern identity. **RATIO**: compression character. **EXP**: expansion of groups. **INV**: amount of activity inversion. Try it for clustered percussion or held modulation regions.

32 Isorhythm

TALEA · COLOR · DENS · CNTUR

Rhythm and melody loops with unequal lengths. **TALEA**: rhythmic loop size. **COLOR**: melodic loop size. **DENS**: rhythmic activity. **CNTUR**: melodic contour and starting character. Useful for a short phrase whose accents and pitches meet differently.

Numbers into phrases.

Algorithm catalogue / four controls for each generator.

03 Kaprekar

START · RANGE · CONV · MIRR

Compact, recurring motifs with a distinctive contour. **START**: chooses initial material. **RANGE**: pitch/value spread. **CONV**: how much of its recurring phrase is used. **MIRR**: mirrored phrase behavior. Useful for motifs that feel recognisable without a conventional melody.

04 Fibonacci

START · MOD · INTVL · WRAP

Grouped melodic movement with recurring relationships. **START**: selects source material. **MOD**: changes its bounded pitch/value mapping. **INTVL**: spacing between principal changes. **WRAP**: allows activity between those principal positions.

05 Primes

START · GAP · RANGE · OFS

Unequal melodic spacing. **START**: source starting position. **GAP**: spacing through the material. **RANGE**: pitch/value span. **OFS**: offset of the mapped material. Try a plucked sound with moderate gates.

06 Thue–Morse

DEPTH · INV · MAP · SPLIT

Complementary, repeating rhythmic shapes. **DEPTH**: structural scale. **INV**: amount of activity inversion. **MAP**: pitch/value palette. **SPLIT**: where the phrase changes to its complementary character. Useful for related halves with different accents.

07 Kolakoski

ALPHA · MAP · DENS · SEED

Grouped, clustered phrases. **ALPHA**: grouping variant. **MAP**: pitch/value palette. **DENS**: generated activity. **SEED**: starting offset into its material. Try a small pitch palette for repeated-note percussion or bass.

15 Cantor Set

DEPTH · MAP · FILL · PHASE

Structured gaps and separated islands of activity. **DEPTH**: gap structure. **MAP**: pitch/value palette. **FILL**: restores activity in gaps. **PHASE**: shifts the structure. Useful for sparse percussion or interrupted modulation.

Wandering & attraction.

Algorithm catalogue / four controls for each generator.

02 Random Walk

STEP · RANGE · BIAS · DRIFT

A wandering line. **STEP**: size of successive movements. **RANGE**: available wandering space. **BIAS**: upward/downward tendency. **DRIFT**: tendency to return toward the middle. Small Step and a narrow range suit restrained melody or modulation.

11 Logistic Map

R · SEED · THRES · SPAN

Regular patterns that can become unstable and jagged. **R**: regularity/instability character. **SEED**: starting condition. **THRES**: activity cutoff. **SPAN**: pitch/value spread. Small control changes produce distinct phrases.

19 Drunk w/ Memory

STEP · MEM · ATTR · RANGE

Wandering that responds to recently visited territory. **STEP**: movement size. **MEM**: amount of remembered history. **ATTR**: attraction to or avoidance of familiar areas. **RANGE**: available space. Compare a returning motif with a more evasive line.

23 Tension Curve

SHAPE · PEAK · DENS · PULL

A shaped phrase moving through more settled and more tense material. **SHAPE**: rising, falling, arch or valley character. **PEAK**: placement of the bend/crest. **DENS**: activity. **PULL**: strength of the tension contrast. The chosen output scale can soften that contrast.

25 Gravity Wells

WELLA · WELLB · GRAV · SPD

Movement between two favored regions. **WELLA / WELLB**: those regions. **GRAV**: attraction strength. **SPD**: speed of alternation between them. Useful for a melody or controller that repeatedly returns toward two areas.

26 Entropy Gradient

SEED · ENT · DIR · DENS

Recognisable motifs mixed with disorder. **SEED**: motif identity. **ENT**: amount of disorder. **DIR**: reverses the control's order/disorder interpretation. **DENS**: activity.

35 Tether

PULL · NOISE · HOME · TAIL

Wandering with a pull toward home. **PULL**: return strength. **NOISE**: ordinary disturbance. **HOME**: favored central level. **TAIL**: likelihood of larger excursions. Useful for movement that leaves its center but keeps returning.

Small rules, larger patterns.

Algorithm catalogue / four controls for each generator.

08 Cell. Automata

RULE · INIT · NBRS · GENS

Patterns ranging from regular to fragmented. **RULE**: structural behavior choice. **INIT**: starting configuration.

NBRS: scope of local influence. **GENS**: development depth. Some choices produce sparse or static patterns; more development does not always mean more activity.

24 Game of Life

SEED · GENS · ROW · VAR

Clustered or sparse emergent patterns. **SEED**: starting population character. **GENS**: development amount.

ROW: which slice supplies activity. **VAR**: behavior variant. Some settings can settle into little activity; that is part of the generated pattern.

30 Turing Pattern

FEED · KILL · DIFF · STEPS

Irregular islands and stripes of activity. **FEED**: pattern-growth character. **KILL**: suppression/sparsity character.

DIFF: spread between regions. **STEPS**: development amount, separate from lane STEPS. Useful for uneven activity with a related contour.

31 Flocking

AGNTS · COHS · SEP · ALIGN

Several moving tendencies influencing one another. **AGNTS**: group size. **COHS**: tendency to gather. **SEP**:

tendency to separate. **ALIGN**: tendency to move together. Useful for a line that alternates between convergence and dispersal.

Harmonic movement.

Algorithm catalogue / four controls for each generator.

09 Markov

ORDER · DENS · TEMP · MEM

Context-sensitive melodic wandering. **ORDER**: how much recent context guides movement. **DENS**: activity. **TEMP**: willingness to make less-local pitch choices. **MEM**: repetition versus wandering character; shorter settings favor tighter recurrence. Useful for a line that revisits familiar territory.

14 Voice Leading

INTVL · CNTUR · GRAV · PHR

A smoother melodic contour. **INTVL**: size of available moves. **CNTUR**: directional phrase character. **GRAV**: pull toward its central region. **PHR**: phrase length.

17 Harmonic Series

FUND · PARTS · WND · DENS

Related, overtone-inspired melodic material. **FUND**: starting reference. **PARTS**: amount of source material. **WND**: selected window/start within it. **DENS**: activity.

33 Tonnetz Walk

PATH · RATE · SPAN · VOICE

Related triadic melodic movement. **PATH**: harmonic route. **RATE**: pace of harmonic changes. **SPAN**: register spread. **VOICE**: traversal of the harmonic material, including ascending, descending, root-focused and pendular character. It still passes through the slot's output pitch rules.

Waves & structures.

Algorithm catalogue / four controls for each generator.

10 L-Systems

AXIOM · RULE · DEPTH · DENS

Branching, recurring phrase structures. **AXIOM**: starting phrase choice. **RULE**: development variant. **DEPTH**: development amount. **DENS**: retained activity. Good for repeating shapes with interruptions or contrasting sections.

16 Penrose

DEPTH · LNOTE · SNOTE · DENS

Two contrasting pitch/value identities in an uneven recurring order. **DEPTH**: structural development. **LNOTE** / **SNOTE**: the two values. **DENS**: activity. Try two pitches on a melodic instrument or two distinct levels on a CC.

18 Lissajous

FRQA · FRQB · PHASE · SPRD

Interwoven rises, falls and accents. **FRQA** / **FRQB**: rates of the two movements. **PHASE**: their relative offset. **SPRD**: output spread. Useful for flowing modulation or a wide melodic contour.

20 Sieve (Xenakis)

MODA · MODB · MODC · LOGIC

Repeating intersections and omissions. **MODA** / **MODB** / **MODC**: the three spacing filters. **LOGIC**: how their selections combine, from restrictive to more inclusive behavior. Useful for interlocking rhythmic or pitched patterns.

21 Bouncing Ball

DROP · GRAV · REST · ARC

Bounce-like clusters and changing hit spacing. **DROP**: initial bounce scale. **GRAV**: speed/compactness character. **REST**: rebound persistence. **ARC**: pitch/value contour.

Motion & response.

Algorithm catalogue / four controls for each generator.

22 Call & Response

PHR · TRNSF · INTVL · VAR

A phrase followed by a related answer. **PHR**: phrase size. **TRNSF**: answer transformation, including inverted, reversed, transposed or lengthened character. **INTVL**: displacement of the answer. **VAR**: variation/omission behavior, depending on transformation. Good for a question-and-answer line.

27 Wave Interference

FRQA · FRQB · MIX · THRES

Interacting rises and falls with selected peaks. **FRQA / FRQB**: movement rates. **MIX**: interaction character. **THRES**: activity cutoff. Useful for flowing CC movement or a melody with repeating peaks and gaps.

28 String Resonance

RES · HARM · DECAY · DENS

Resonance-inspired phrase contours. **RES**: resonance complexity. **HARM**: harmonic character. **DECAY**: persistence of the contour. **DENS**: activity.

34 Pendulum Waves

COUNT · CYCLS · PHASE · DAMP

Overlapping motions that move apart and meet again. **COUNT**: number of contributing motions. **CYCLS**: base motion rate. **PHASE**: starting offset. **DAMP**: reduction of intensity across the phrase. Try accents or evolving modulation.

36 Voss 1/F

OCTVS · SEED · SMOTH · TILT

Irregular motion combining shorter and longer changes. **OCTVS**: number of movement scales, not the NOTE octave range. **SEED**: variation identity. **SMOTH**: smoothing. **TILT**: balance of faster and slower character. Useful for organic controller movement.

Rhythmic anchors & pulses.

Algorithm catalogue / four controls for each generator.

37 Clave

PTRN · VAR · ROT · DENS

Clave-like rhythmic anchors with variations. **PTRN**: base pattern. **VAR**: displacement variation. **ROT**: rhythmic offset. **DENS**: added activity/ghost character.

38 Cross Rhythm

A · B · ROT · BLND

Two interacting pulse periods. **A / B**: their periods. **ROT**: offset. **BLND**: participation of the second pulse/accents structure. Useful for interlocking percussion or accents.

39 Breakbeat

DENS · SYNC · SEED · GHST

Strong anchors with syncopation and ghost activity. **DENS**: additional main activity. **SYNC**: syncopated displacement. **SEED**: variation identity. **GHST**: ghost activity. Useful in KIT after matching row notes to the receiving drum instrument.

40 Golden Ratio

HITS · PHASE · SPRD · FILL

Unevenly spaced activity. **HITS**: principal hit count. **PHASE**: starting displacement. **SPRD**: spacing character. **FILL**: additional activity. Useful for a rhythm that avoids a plain evenly spaced grid pattern.

41 Euclidean Pulse

HITS · STEPS · ROT · FILL

Explicit low/high pulses. **HITS**: pulse count. **STEPS**: pulse cycle size. **ROT**: offset. **FILL**: adds pulses. On MOD, MIN/MAX set low/high levels; full Fill makes every position high. This remains a separate algorithm from original Euclidean.

68 / VEKTE MANUAL

Three ideas to try.

Give each experiment a clear job.

01 / A BASS LINE WITH SHIFTING ACCENTS

Sixteen notes, fifteen accents

Use a 16-step Euclidean NOTE lane with a narrow octave range and no chord. Set MOD 1 to Velocity, SQR and 15 steps at the same division. Keep its minimum velocity high enough that every note still speaks. The accent cycle moves around the bass line.

02 / A LINE THAT CHANGES ITS VOICE

Slow movement on the synth

Keep a NOTE pattern you like and lock it against rolls. Set MOD 1 to CC, choose a controller mapped to the synth's filter, and try a slow Tether or Wave Interference pattern with CRV. Start with a narrow MIN/MAX range. Quicksave a few different modulation versions.

03 / ONE PHRASE CONDUCTING ANOTHER

A slow SEQ and a faster ARP

Give slot 1 long, sparse SEQ notes and route it to A02. Put slot 2 in ARP, set a faster division and route its output to the synth. Compare RTRG on and off. Add a chord on slot 1 to hear its pitch classes guide the ARP.

Keep the good stopping points

A useful result does not need every lane enabled. Save the simple version before adding another layer.

Find the missing connection.

Check one layer at a time.

SYMPTOM	CHECK
No sound	Is transport running, the slot enabled, and MIDI reaching the receiving instrument? Is your licence or approved beta access active?
Silent ARP	It needs held external or internally routed notes. ARP Latch keeps its clock moving, rather than sustaining released input notes.
No Approach / Fill	Use changing pitches and a real gap. Full TIE leaves no pickup space. Check assigned modulation.
Ratchet seems unchanged	Disable Quick Arp, choose more than one repeat and leave enough event space. The final repeat carries a tied tail.
A knob keeps moving back	Inspect Assigned mods, MIDI Learn and host automation. A randomization lock does not disconnect them.
LFO silent	Enable the lane's main ON and LFO switch, then check targets, trigger gate, range and fades.
Preset waits	Playback recalls use the next bar. Use Start now for immediate loading.
MIDI recall does nothing	MIDI BANK/PRGRM recall is experimental and not yet fully implemented. Use the preset browser for ordinary recall.

Before reporting a problem

Keep the preset or .VKT, host name, plugin format, version and the steps that reproduce it. A small example is easier to diagnose than a whole performance.

Keep the essentials nearby.

Desktop 1.3.0 at a glance.

CONTROL / CHOICE	USE
Slots / generators	16 slots; 41 algorithms, each with four named controls; up to 32 source steps per lane.
Modulation	Four MOD sequencers and four LFOs per slot. Both sources can run together, each with multiple destinations and numbered MIDI CC outputs.
Timing	Independent Sync, Hz, Audio and WTFO clocks for NOTE, MOD and LFO. Transport positions can also be modulated.
Articulation	Repeat up to 16 total plays, Ratchet up to 32 hits, TIE, Strum, Approach/Fill and Quick Arp.
Harmony	Root, scale, chord, DEG transposition, scale-aware NOTE INV and selectable ARP chord mapping.
Library	Sets, songs, presets, QUICKSAVE, next-bar recall, history and .VKT backup.
macOS / Windows	Universal macOS VST3, standalone and embedded AUv3 MIDI effect; Windows x64 VST3 and standalone.
Access	Offline VEKTE licence or approved active beta account. Version 1.3.0 has no demo mode.
Help	Tooltips, right-click or long-press Explain, MOD/LFO Explorer and this manual.

MIDI BANK/PRGRM

Recall through MIDI Bank Select and Program Change is experimental and not yet fully implemented.

Explore one layer at a time.

A small part of VEKTE can be a complete musical instrument.

Each of the sixteen slots contains a NOTE lane, four MOD sequencers and four LFOs. Start with one slot and one instrument. A useful phrase can need only a generator, a scale and a few controls.

CONTROL / CHOICE	USE
Generate	Choose one of 41 algorithms, then shape it with its four named parameters.
Play	Use SEQ for melodic material, KIT for drum rows or ARP for incoming notes.
Shape	Edit notes, protect them with locks, then add length, ties, strum, pickups or repeats.
Move	Enable a MOD or LFO and connect one destination. Add more when the phrase calls for them.
Keep	Save a preset for a slot, a song for the rig, and a .VKT or project for a portable working backup.

Follow your curiosity

The reference at the end lists controls and choices by category. You can return to it when you need a particular function.

Read the control reference.

Controls, menu choices and modulation destinations have different scopes.

The compact reference at the end groups the controls by job. $\times 16$ means one instance in every slot; $\times 1$ means a shared command. Additional notes identify repeated banks, steps or KIT rows.

CONTROL / CHOICE	USE
Controls	The settings you author directly: a knob, switch, note field or menu choice.
Secondary functions	Options reached through a control's context menu. A + marks their parent knob.
Destinations	The parameters a MOD or LFO can control. Algorithm destinations use the active generator's four parameter names.
Source menus	The same destination can appear in several source menus. Repeated entries are routes to a setting, rather than separate functions.
Legacy identifiers	Some bracketed parameter IDs retain older internal lane names for compatibility. Visible CC1/CC2 lane names are now MOD 3/MOD 4.

Numeric knob positions, possible routing combinations and saved library entries are separate from this named-control reference.

One channel, many configurations.

At least 2.34×10^{305} programmed step configurations.

A single channel contains one 32-step NOTE pattern and four 32-step MOD patterns. Counting only their editable step data already gives a **306-digit number**.

PATTERN DATA	CHOICES COUNTED
NOTE: 32 steps	12 chromatic pitches or a rest at each step: 13^{32} .
MOD: four lanes x 32 steps	128 independently selectable values at each step: 128^{128} .

The calculation

$$13^{32} \times 128^{128} \approx 2.33917864 \times 10^{305}$$

This lower bound covers programmed step data alone. Gates, locks, KIT assignments, algorithm controls, scales, chords, Approach, Fill, directions, divisions, rotations, articulation, QARP, LFOs and routing sit outside this calculation.

Five independent algorithm choices

Choosing one of 41 algorithms for each of the five pattern lanes gives $41^5 = 115,856,201$ algorithm-selection combinations.

Configurations and musical results

These figures count settings and selections. Different configurations can produce the same sound. The actionable-control inventory counts interface instances; its entries are not independent factors to multiply into this calculation.

From a phrase to a long cycle.

A pattern pass, a waveform and a shared clock alignment measure different things.

WHAT RETURNS TO ITS START	DURATION
32 forward steps, each 512 bars, at 120 BPM in 4/4	9 hours, 6 minutes, 8 seconds
Longest WTFO base waveform	1,000 years
That waveform with MULT ÷16	16,000 years
That ÷16 waveform's full phase/rotation alignment, with CYCLE on and ROT 1	512,000 years
The five pattern clocks and four WTFO clocks in the following example	Approximately 3.83×10^{52} years

A year here means a Julian year: 365.25 days. The first row is one forward pass through a pattern. Automatic rotation and other active clocks contribute additional periods to a shared alignment.

Why unequal clocks take longer

The Cycle readout finds the shortest time containing a whole number of every contributing period. Different long periods can take far longer to meet than identical maximum-length periods. Moving every speed to its slowest setting therefore does not necessarily give the longest shared cycle.

Clock alignment and performance

The long oscillator figures assume fixed periodic waveforms, uninterrupted running and unchanged settings. Cycle describes clock alignment. Live MIDI, tempo changes, probability, humanization, retriggering, fades and timing modulation affect the sounding performance; aligned clocks do not guarantee identical MIDI playback.

Build an extended clock alignment.

One channel, five pattern clocks and four WTFO clocks at a constant 120 BPM.

Keep the other channels inactive. Set the five pattern lanes as follows:

LANE	STEPS	DIV
NOTE	31	5 bars
MOD1	29	7 bars
MOD2	27	6 bars
MOD3	23	512 bars
MOD4	17	512 bars

For every pattern lane, choose **Ping-Pong**, enable **CYCLE**, set **ROT1** and leave lane lock off. Keep all four MOD patterns active alongside their enabled LFOs.

WTFO	BASE PERIOD IN SECONDS	SPEED POSITION ¹
LFO 1	31,557,600,000	1000
LFO 2	30,455,242,481	998
LFO 3	27,864,887,761	993
LFO 4	26,417,665,687	990

¹ SPEED positions use the internal 0-1000 control scale. They are control positions, rather than seconds or the displayed duration labels.

For every LFO, use a fixed periodic waveform in **WTFO** mode; enable **CYCLE**, set **ROT1** and **MULT ÷16**. Set probability to 100% and swing, humanization, QARP, note-following, retriggering and fades off. Use ordinary CC destinations and leave timing-changing modulation off.

The combined alignment

These periods give a structural clock-alignment estimate of approximately **3.8331384 × 10⁵² Julian years**. This is a constructed example, rather than an absolute maximum. Playback continues throughout; the alignment does not delay notes.

Actionable controls addendum.

x16 = in each channel. x1 = one shared command. Bank, row and step multipliers appear beside each category.

01. Channel selection and actions

Select channel	x16
Mute / Unmute channel	x16
Copy channel	x16
Paste channel	x16
Init channel	x16
Quicksave channel	x16
Randomize Slot	x16

02. NOTE lane and musical pitch

NOTE lane enable / disable	x16
SEQ mode	x16
KIT mode	x16
ARP mode	x16
Algorithm selector	x16
P1	x16
P2	x16
P3	x16
P4	x16
STEPS	x16
DENSE	x16
PROB	x16
ROT	x16
CYCLE rotation	x16
DIV	x16
DIR	x16
Root R	x16
Scale S	x16
Chord C	x16
OCT-	x16
OCT+	x16
SNGL	x16
Output MIDI channel / internal ARP destination	x16
NOTE RND	x16
NOTE roll seed	x16
NOTE lane lock	x16
Algorithm lock	x16
Random Amount	x16
NOTE CLOCK: Sync / Hz / Audio / WTFO	x16
NOTE free-clock speed	x16
DEG - scale-degree transposition	x16
NOTE INV	x16
F.QNT - final note-start grid	x16

03. Articulation and humanizers

VEL - velocity	x16
LENG - note length	x16
Length: Quantized	x16
Length: Free	x16
STRUM - bipolar voice order/spread	x16
STRUM Follow Ratchet	x16
RATCH - attack count	x16
R.LEN - Sequential spacing	x16
R.TIME - explicit repeat spacing	x16
R.TIME: Quantized	x16
R.TIME: Free	x16
Ratchet: Distributed	x16
Ratchet: Sequential	x16
SWING	x16
HUMN - main-note timing	x16
A.HMN - Approach amount	x16
S.HMN - bipolar strum spacing	x16
R.HMN - bipolar ratchet spacing	x16
V.HMN - velocity variation	x16
TIE - bipolar relative duration	x16
STRUM: Free / Quantized	x16
Strum Velocity Decay	x16
Ratchet Velocity Decay	x16
Ratchet Length Decay	x16
Ratchet / Repeat mode	x16
REPEAT - total plays 0-16	x16
QSWING - Swing grid	x16
SW.HMN - Swing humanization	x16

04. Approach and Fill

APPR amount	x16
FILL amount	x16
Duration: Fill the gap	x16
Duration: Use note length	x16
Mono Approach	x16
Chord Approach	x16
Follow Strum	x16
Follow Ratchet	x16

05. ARP input and HARM

ARP EXT input	x16
ARP INT input	x16
RTRG	x16
ARP LATCH	x16

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

05. ARP input and HARM (continued)

ARP offset	×16
HARM: Use parent chord when present / Keep generated intervals	×16
HARM: Quantize to this slot's root + scale	×16
HARM: Parent/Input root + this slot's pattern	×16
HARM: Use parent/input held notes	×16
HARM: Parent/Input note + this slot's octave span	×16
HARM: Fold into this slot's OCT- / OCT+ range	×16
HARM: Bottom-up chord mapping	×16
HARM: Legacy chord mapping	×16

06. Quick Arp

Melodic QARP mode	×16
KIT QARP mode	×16
QARP DIV	×16
QARP DIR	×16

07. KIT setup

SLOTS - active sound count	×16
Normal KIT	×16
Single sound - row 1	×16
Choke previous hit	×16
Single sound + choke	×16

08. KIT row actions

8 rows per channel; each action totals 8 ×16 = 128 instances

Note selection	×16
Play / audition	×16
Swap assignment	×16
Copy note	×16
Paste note	×16
Copy to all rows	×16
Mute / Unmute	×16
Solo / Unsolo	×16

09. NOTE/KIT step editing

32 positions per channel · Per main note

Step enabled / disabled	×16
Step pitch	×16
Step KIT row / sound assignment	×16
Lock / Unlock step	×16
Per-note Repeat count	×16

10. NOTE step-lock command

Unlock all notes	×16
------------------	-----

11. MOD1-4 controls

4 MOD lanes per channel; each control totals 4 ×16 = 64 instances · Four banks per slot

MOD view selector	×16
Bank master ON / OFF	×16
MOD ON / OFF	×16
Algorithm selector	×16
P1	×16
P2	×16
P3	×16
P4	×16
STEPS	×16
DIV	×16
DIR	×16
ROT	×16
CYCLE rotation	×16
MIN	×16
MAX	×16
HUMN	×16
SWLCK	×16
INV	×16
Target menu	×16
CC number for CC (pick)	×16
Interpolation selector	×16
Interpolation subdivision	×16
RND sub-shape	×16
RND	×16
Roll seed	×16
Random Amount	×16
Lane lock	×16
Algorithm lock	×16
MOD CLOCK: Sync / Hz / Audio / WTFO	×16
MOD free-clock speed	×16

12. MOD step editing

4 MOD lanes ×32 positions per channel; 128 ×16 = 2,048 editable values

Step value	×16
------------	-----

13. LFO1-4 controls

4 LFOs per channel; each control totals 4 ×16 = 64 instances

LFO view selector	×16
LFO ON / OFF	×16
SHAPE	×16
CLOCK	×16
SPEED	×16

Actionable controls, continued.

x16 = in each channel. x1 = one shared command. Bank, row and step multipliers appear beside each category.

13. LFO1–4 controls (continued)

4 LFOs per channel; each control totals 4 x16 = 64 instances

WTFO period	x16
MULT	x16
MIN	x16
MAX	x16
INV	x16
PHASE	x16
ROT	x16
CYCLE rotation	x16
DIR	x16
HUM	x16
IN - modulation fade in	x16
OUT - modulation fade out	x16
TRIG	x16
Target menu	x16
CC number for CC (pick)	x16
RND	x16
Roll seed	x16
LOCK	x16

14. Source assignment actions

8 MOD/LFO sources per channel; each action has 8 x16 = 128 source contexts

Find a target search field	x16
Add destination	x16
Remove one assigned destination x	x16
None - clear source destinations	x16

15. Parameter context actions

Per channel; repeated on applicable parameter menus

Explain	x16
Reset	x16
Initialize all	x16
Assign to...	x16
Choose source slot	x16
Choose MOD1–4 or LFO1–4	x16
Assign	x16
Assigned mods	x16
Remove incoming modulation x	x16
Learn CC	x16
Set CC#	x16
Clear CC	x16
Lock / Unlock	x16

16. Shared transport and navigation

Play / Pause	x1
Stop / rewind	x1
SYNC to external transport	x1
BPM	x1
TAP	x1
Undo	x1
Redo	x1
Copy current slot	x1
Paste current slot	x1
Quicksave	x1
Previous saved variation	x1
Next saved variation	x1
PRESETS open / close	x1
Main menu open / close	x1
Cycle calculation details	x1

17. Shared preset and library commands

Search presets and locations	x1
Select set	x1
Select song	x1
Select preset	x1
Expand / collapse set	x1
Expand / collapse song	x1
Load preset	x1
Load song	x1
Save preset	x1
Replace preset	x1
Save song	x1
Duplicate library item	x1
Rename	x1
Delete	x1
New - initialise working rig	x1
New set	x1
New song	x1
Move to...	x1
Move up	x1
Move down	x1
Drag to move	x1
Alt/Option-drag to copy	x1
Copy library item	x1
Cut library item	x1
Paste library item	x1
Copy key	x1

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

17. Shared preset and library commands (continued)

Share image	×1
Save .VKT	×1
Open .VKT	×1
Start now	×1
Maximize QR	×1
Close enlarged QR	×1

18. Shared history commands

Actions operate on the current channel's history

Show / Hide History Log	×1
Try state	×1
Return to current	×1
Quicksave recovered	×1
Save as Pattern	×1
Save as Song	×1
Save as Set	×1

19. Shared MIDI recall controls

The panel assigns the selected saved preset or song

Midi Recall open	×1
Bank	×1
Part	×1
IN receive channel	×1
Destination Slot	×1
Timing: Immediate	×1
Timing: Next bar	×1
Assign	×1
Clear	×1

20. Shared files and song commands

Save Channel	×1
Load Channel	×1
Copy Song	×1
Paste Song	×1
Save Song	×1
Load Song	×1
Song Init	×1
Init the whole song confirmation	×1
Cancel song initialisation	×1
Factory Rig	×1

21. Shared musical sharing commands

Channel Key	×1
Copy Key	×1

21. Shared musical sharing commands (continued)

Share Pattern	×1
Edit sharing text	×1
Save Image	×1
Copy Text	×1
Back / Close	×1

22. Shared MIDI connection commands

Available ports depend on connected devices

MIDI Output port selection	×1
MIDI Clock Out ON / OFF	×1
Back from output picker	×1

23. Shared help and feedback

Manual	×1
What's new	×1
Feedback	×1
Feedback message	×1
Send feedback	×1
Back / Close	×1

24. Shared desktop licence and beta controls

Licence dialog	×1
Purchase email	×1
Licence key	×1
Paste key	×1
Activate	×1
Buy Vekte	×1
Lost key	×1
Beta testing	×1
Beta email	×1
Unlock beta	×1
Enter licence key	×1
Log out beta	×1
Demo restart	×1
Close	×1

25. MOD/LFO Explorer

Open MOD/LFO Explorer	×1
Inspect source, destination and live value	×1
Solo connection	×1
Mute connection	×1
Delete connection	×1
Remove all connections with confirmation	×1

Actionable controls, continued.

x16 = in each channel. x1 = one shared command. Bank, row and step multipliers appear beside each category.

26. NOTE and MOD direction choices

5 lanes per channel; each choice 5 x16 = 80 instances

Forward	x16
Reverse	x16
Quantized Reverse	x16
Ping-Pong	x16
Quantized Ping-Pong	x16
Random	x16
Brownian Walk	x16
Random Skip	x16
Bounce - 4 steps	x16

27. LFO direction choices

4 LFOs per channel

Forward	x16
Reverse	x16
Ping-Pong	x16

28. QARP direction choices

Forward	x16
Reverse	x16
Ping-Pong	x16
Random	x16
Random Walk	x16

29. QARP mode choices

Separate melodic and KIT selectors; each choice 2 x16 = 32 instances

Off	x16
Sequence Notes · Retrigger	x16
Sequence True · Retrigger	x16
Sequence Notes · Free	x16
Sequence True · Free	x16
Up	x16
Down	x16
Up / Down	x16
Down / Up	x16
Order	x16
Random	x16
Chord	x16

30. MOD interpolation choices

4 MOD lanes per channel

SQR	x16
RMP	x16
TRI	x16

30. MOD interpolation choices (continued)

4 MOD lanes per channel

CRV	x16
MIX	x16
RND	x16

31. MOD subdivision choices

4 MOD lanes per channel

1	x16
÷2	x16
÷4	x16
÷8	x16
÷16	x16
÷32	x16

32. MOD RND sub-shape choices

4 MOD lanes per channel

STEP	x16
TRI	x16
CURVE	x16
RAMP	x16

33. LFO shape choices

4 LFOs per channel

SINE	x16
TRI	x16
SAW+	x16
SAW-	x16
SQR	x16

34. LFO clock choices

4 LFOs per channel

Sync	x16
Hz	x16
Audio range	x16
WTFO	x16

35. LFO trigger choices

4 LFOs per channel

Sync	x16
Note pitch	x16
Note Restart	x16
Note Latch	x16
Every main step	x16
Transport start	x16

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

36. Timing division choices

NOTE, MOD1–4 and QARP: 6 selectors per channel

1/128 note	×16
1/64 triplet	×16
1/64 note	×16
1/48 note	×16
1/32 note	×16
1/24 note	×16
1/16 note	×16
1/12 note	×16
1/8 note	×16
1/6 note	×16
3/16 note	×16
1/4 note	×16
1/3 note	×16
3/8 note	×16
5/12 note	×16
1/2 note	×16
2/3 note	×16
3/4 note	×16
1 bars	×16
2 bars	×16
3 bars	×16
4 bars	×16
5 bars	×16
6 bars	×16
7 bars	×16
8 bars	×16
16 bars	×16
32 bars	×16
64 bars	×16
128 bars	×16
256 bars	×16
512 bars	×16

37. Articulation duration / spacing grid choices

Shared fraction vocabulary for Length, TIE, R.TIME and the Length/Ratchet grid destinations; numeric percentages omitted · Extended duration choices

Free	×16
1/1	×16
1/2	×16
1/2 triplet	×16
1/4	×16
1/4 triplet	×16

37. Articulation duration / spacing grid choices (continued)

Shared fraction vocabulary for Length, TIE, R.TIME and the Length/Ratchet grid destinations; numeric percentages omitted · Extended duration choices

1/8	×16
1/8 triplet	×16
1/16	×16
1/16 triplet	×16
1/32	×16
1/32 triplet	×16
1/64	×16
1/64 triplet	×16
1/128	×16
1/128 triplet	×16
1/256	×16
1/256 triplet	×16
1/512	×16
1/512 triplet	×16
1/1024	×16
1/1024 triplet	×16
1/2048	×16
2 bars	×16
4 bars	×16
8 bars	×16
16 bars	×16
32 bars	×16

38. LFO Sync rate choices

4 LFOs per channel; continuous Hz/Audio/WTFO values are not expanded

512 bars	×16
256 bars	×16
128 bars	×16
64 bars	×16
32 bars	×16
16 bars	×16
8 bars	×16
4 bars	×16
2 bars	×16
1 bars	×16
1/2 note	×16
1/4 note	×16
1/6 note	×16
1/8 note	×16
1/12 note	×16

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

38. LFO Sync rate choices (continued)

4 LFOs per channel; continuous Hz/Audio/WTFO values are not expanded

1/16 note	×16
1/24 note	×16
1/32 note	×16
1/48 note	×16
1/64 note	×16

39. Algorithm choices

NOTE and MOD1–4: 5 lanes per channel; each choice 5 ×16 = 80 instances

Euclidean	×16
Random Walk	×16
Kaprekar	×16
Fibonacci	×16
Primes	×16
Thue-Morse	×16
Kolakoski	×16
Cell. Automata	×16
Markov	×16
L-Systems	×16
Logistic Map	×16
Polyrhythm	×16
Bresenham	×16
Voice Leading	×16
Cantor Set	×16
Penrose	×16
Harmonic Series	×16
Lissajous	×16
Drunk w/ Memory	×16
Sieve (Xenakis)	×16
Bouncing Ball	×16
Call & Response	×16
Tension Curve	×16
Game of Life	×16
Gravity Wells	×16
Entropy Gradient	×16
Wave Interference	×16
String Resonance	×16
Run-Length	×16
Turing Pattern	×16
Flocking	×16
Isorhythm	×16
Tonnetz Walk	×16

39. Algorithm choices (continued)

NOTE and MOD1–4: 5 lanes per channel; each choice 5 ×16 = 80 instances

Pendulum Waves	×16
Tether	×16
Voss 1/F	×16
Clave	×16
Cross Rhythm	×16
Breakbeat	×16
Golden Ratio	×16
Euclidean Pulse	×16

40. Four named controls for every algorithm

Each of the four controls applies to NOTE and MOD1–4: 5 lanes per channel

Euclidean - hits, steps, rot, fill	×16
Random Walk - step, range, bias, drift	×16
Kaprekar - start, range, conv, mirr	×16
Fibonacci - start, mod, intvl, wrap	×16
Primes - start, gap, range, ofs	×16
Thue-Morse - depth, inv, map, split	×16
Kolakoski - alpha, map, dens, seed	×16
Cell. Automata - rule, init, nbrs, gens	×16
Markov - order, dens, temp, mem	×16
L-Systems - axiom, rule, depth, dens	×16
Logistic Map - r, seed, thres, span	×16
Polyrhythm - PA, PB, PC, VOXM	×16
Bresenham - hits, steps, ofs, sprd	×16
Voice Leading - intvl, cntur, grav, phr	×16
Cantor Set - depth, map, fill, phase	×16
Penrose - depth, Lnote, Snote, dens	×16
Harmonic Series - fund, parts, wnd, dens	×16
Lissajous - frqA, frqB, phase, sprd	×16
Drunk w/ Memory - step, mem, attr, range	×16
Sieve (Xenakis) - modA, modB, modC, logic	×16
Bouncing Ball - drop, grav, rest, arc	×16
Call & Response - phr, trnsf, intvl, var	×16
Tension Curve - shape, peak, dens, pull	×16
Game of Life - seed, gens, row, var	×16
Gravity Wells - wellA, wellB, grav, spd	×16
Entropy Gradient - seed, ent, dir, dens	×16
Wave Interference - frqA, frqB, mix, thres	×16
String Resonance - res, harm, decay, dens	×16
Run-Length - seed, ratio, exp, inv	×16
Turing Pattern - feed, kill, diff, steps	×16

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

40. Four named controls for every algorithm (continued)

Each of the four controls applies to NOTE and MOD1-4: 5 lanes per channel

Flocking - agnts, cohs, sep, align	×16
Isorhythm - talea, color, dens, cntur	×16
Tonnetz Walk - path, rate, span, voice	×16
Pendulum Waves - count, cycls, phase, damp	×16
Tether - pull, noise, home, tail	×16
Voss 1/F - octvs, seed, smoth, tilt	×16
Clave - ptrn, var, rot, dens	×16
Cross Rhythm - a, b, rot, blnd	×16
Breakbeat - dens, sync, seed, ghst	×16
Golden Ratio - hits, phase, sprd, fill	×16
Euclidean Pulse - hits, steps, rot, fill	×16

41. Scale choices

Diatonic / Modes: NONE	×16
Diatonic / Modes: MAJR	×16
Diatonic / Modes: NMIN	×16
Diatonic / Modes: DORI	×16
Diatonic / Modes: MIXO	×16
Diatonic / Modes: PHRY	×16
Diatonic / Modes: LYDI	×16
Diatonic / Modes: ION	×16
Diatonic / Modes: AEOL	×16
Diatonic / Modes: LOCR	×16
Pentatonic / Blues: MPEN	×16
Pentatonic / Blues: MPNM	×16
Pentatonic / Blues: BLUE	×16
Pentatonic / Blues: HIRA	×16
Pentatonic / Blues: INSC	×16
Pentatonic / Blues: INSN	×16
Pentatonic / Blues: IWAT	×16
Pentatonic / Blues: YO	×16
Minor variants: HMNR	×16
Minor variants: MMIN	×16
Minor variants: MMIA	×16
Minor variants: HARM	×16
Minor variants: LOC6	×16
Minor variants: MLOC	×16
Minor variants: SLOC	×16
Minor variants: ALTD	×16
Major variants: HMJR	×16
Major variants: PHRD	×16
Major variants: LYD7	×16

41. Scale choices (continued)

Major variants: ACST	×16
Major variants: LYDA	×16
Major variants: LYDD	×16
Symmetric / Synthetic: CHRM	×16
Symmetric / Synthetic: WTON	×16
Symmetric / Synthetic: UKDR	×16
Symmetric / Synthetic: ADON	×16
Symmetric / Synthetic: BBDO	×16
Symmetric / Synthetic: BBMJ	×16
Symmetric / Synthetic: HDIM	×16
Symmetric / Synthetic: OCTA	×16
Symmetric / Synthetic: ISTR	×16
Symmetric / Synthetic: AUGM	×16
Symmetric / Synthetic: PROM	×16
Symmetric / Synthetic: TRIT	×16
Symmetric / Synthetic: 2STT	×16
World / Exotic: PELO	×16
World / Exotic: SLEN	×16
World / Exotic: GYPS	×16
World / Exotic: HUGY	×16
World / Exotic: HUMN	×16
World / Exotic: HUMA	×16
World / Exotic: ALGR	×16
World / Exotic: PERS	×16
World / Exotic: HAWA	×16
World / Exotic: VSHM	×16
World / Exotic: DBHR	×16
Greek / Tritone: ENIG	×16
Greek / Tritone: NPMA	×16
Greek / Tritone: NPMI	×16
Greek / Tritone: SCHM	×16
Greek / Tritone: DLTA	×16
Greek / Tritone: ALPH	×16
Greek / Tritone: BETA	×16
Greek / Tritone: GAMM	×16
Greek / Tritone: BOHP	×16
Greek / Tritone: EFGN	×16
Greek / Tritone: NPYT	×16
Microtonal / xET: 15ET	×16
Microtonal / xET: 16ET	×16
Microtonal / xET: 17ET	×16
Microtonal / xET: 19ET	×16
Microtonal / xET: 21ET	×16

Actionable controls, continued.

x16 = in each channel. x1 = one shared command. Bank, row and step multipliers appear beside each category.

41. Scale choices (continued)

Microtonal / xET: QTRT x16

42. Chord choices

No chord: ---	x16
Major: MAJ	x16
Major: MAJ7	x16
Major: MAJ9	x16
Major: MAJ11	x16
Major: MAJ13	x16
Major: MAJ7#11	x16
Major: 6	x16
Major: 6/9	x16
Major: ADD9	x16
Major: ADD11	x16
Minor: MIN	x16
Minor: MIN7	x16
Minor: MIN9	x16
Minor: MIN11	x16
Minor: MIN13	x16
Minor: MINMAJ7	x16
Minor: MIN6	x16
Minor: MIN6/9	x16
Minor: M6	x16
Minor: MINADD9	x16
Dominant: 7	x16
Dominant: 9	x16
Dominant: 11	x16
Dominant: 13	x16
Dominant: 7b5	x16
Dominant: 7#5	x16
Dominant: 7b9	x16
Dominant: 7#9	x16
Dominant: 7SUS4	x16
Suspended / Power / Quartal: SUS4	x16
Suspended / Power / Quartal: SUS2	x16
Suspended / Power / Quartal: 5	x16
Suspended / Power / Quartal: POW	x16
Suspended / Power / Quartal: QRT	x16
Diminished / Augmented: DIM	x16
Diminished / Augmented: DIM7	x16
Diminished / Augmented: M7b5	x16
Diminished / Augmented: AUG	x16

43. Output destination choices

Internal destinations appear when the receiving slot is available as ARP; routing loops are rejected

MIDI channel 01	x16
MIDI channel 02	x16
MIDI channel 03	x16
MIDI channel 04	x16
MIDI channel 05	x16
MIDI channel 06	x16
MIDI channel 07	x16
MIDI channel 08	x16
MIDI channel 09	x16
MIDI channel 10	x16
MIDI channel 11	x16
MIDI channel 12	x16
MIDI channel 13	x16
MIDI channel 14	x16
MIDI channel 15	x16
MIDI channel 16	x16
A01 - internal receiving ARP slot	x16
A02 - internal receiving ARP slot	x16
A03 - internal receiving ARP slot	x16
A04 - internal receiving ARP slot	x16
A05 - internal receiving ARP slot	x16
A06 - internal receiving ARP slot	x16
A07 - internal receiving ARP slot	x16
A08 - internal receiving ARP slot	x16
A09 - internal receiving ARP slot	x16
A10 - internal receiving ARP slot	x16
A11 - internal receiving ARP slot	x16
A12 - internal receiving ARP slot	x16
A13 - internal receiving ARP slot	x16
A14 - internal receiving ARP slot	x16
A15 - internal receiving ARP slot	x16
A16 - internal receiving ARP slot	x16

44. Target destinations – NOTE

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Algorithm [NoteAlgo]	x16
Steps [NoteSteps]	x16
Division [NoteDiv]	x16
Rotation [NoteRot]	x16
Enabled [NoteOn]	x16
Lock [NoteLock]	x16

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

44. Target destinations – NOTE (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Direction [NotePlay]	×16
Auto rotate [NoteAuto]	×16
Humanise [NoteHuman]	×16

45. Target destinations – MOD 1

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Algorithm [VelAlgo]	×16
Steps [VelSteps]	×16
Division [VelDiv]	×16
Rotation [VelRot]	×16
Enabled [VelOn]	×16
Lock [VelLock]	×16
Direction [VelPlay]	×16
Auto rotate [VelAuto]	×16
Humanise [VelHuman]	×16
Minimum [VMin]	×16
Maximum [VMax]	×16
Target [Mod1Tgt]	×16
Target CC [Mod1TgtCC]	×16
Curve [Mod1Curve]	×16
Swing lock [VelSwgLk]	×16
Interp [Lane1_Interp]	×16
Subdiv [Lane1_Subdiv]	×16
Rnd Shape [Lane1_RndShape]	×16
Random amount [Lane1_RndAmount]	×16
Transport [Mod1Position]	×16

46. Target destinations – MOD 2

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Algorithm [LenAlgo]	×16
Steps [LenSteps]	×16
Division [LenDiv]	×16
Rotation [LenRot]	×16
Enabled [LenOn]	×16
Lock [LenLock]	×16
Direction [LenPlay]	×16
Auto rotate [LenAuto]	×16
Humanise [LenHuman]	×16
Minimum [LMin]	×16
Maximum [LMax]	×16
Target [Mod2Tgt]	×16

46. Target destinations – MOD 2 (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Target CC [Mod2TgtCC]	×16
Curve [Mod2Curve]	×16
Swing lock [LenSwgLk]	×16
Interp [Lane2_Interp]	×16
Subdiv [Lane2_Subdiv]	×16
Rnd Shape [Lane2_RndShape]	×16
Random amount [Lane2_RndAmount]	×16
Transport [Mod2Position]	×16

47. Target destinations – MOD 3

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Algorithm [CC1Algo]	×16
Steps [CC1Steps]	×16
Division [CC1Div]	×16
Rotation [CC1Rot]	×16
Enabled [CC1On]	×16
Lock [CC1Lock]	×16
Direction [CC1Play]	×16
Auto rotate [CC1Auto]	×16
Humanise [CC1Human]	×16
Minimum [CMin]	×16
Maximum [CMax]	×16
Target [Mod3Tgt]	×16
Target CC [Mod3TgtCC]	×16
Curve [Mod3Curve]	×16
Swing lock [CC1SwgLk]	×16
Interp [Lane3_Interp]	×16
Subdiv [Lane3_Subdiv]	×16
Rnd Shape [Lane3_RndShape]	×16
Random amount [Lane3_RndAmount]	×16
Transport [Mod3Position]	×16

48. Target destinations – MOD 4

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Algorithm [CC2Algo]	×16
Steps [CC2Steps]	×16
Division [CC2Div]	×16
Rotation [CC2Rot]	×16
Enabled [CC2On]	×16
Lock [CC2Lock]	×16
Direction [CC2Play]	×16

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

48. Target destinations – MOD 4 (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Auto rotate [CC2Auto]	×16
Humanise [CC2Human]	×16
Minimum [C2Min]	×16
Maximum [C2Max]	×16
Target [Mod4Tgt]	×16
Target CC [Mod4TgtCC]	×16
Curve [Mod4Curve]	×16
Swing lock [CC2SwgLk]	×16
Interp [Lane4_Interp]	×16
Subdiv [Lane4_Subdiv]	×16
Rnd Shape [Lane4_RndShape]	×16
Random amount [Lane4_RndAmount]	×16
Transport [Mod4Position]	×16

49. Target destinations – Pitch / harmony destinations

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Scale [Scale]	×16
Chord [Chord]	×16
Root note [BaseNote]	×16
Lowest octave [OctLow]	×16
Highest octave [OctHigh]	×16
Bend Range [BendRange]	×16
Pitch [Pitch]	×16
Smooth Pitch [SmoothPitch]	×16
Root Note All [RootNoteAll]	×16
Root Note Quantized [RootNoteQuantized]	×16
Scale degrees [DegreeTranspose]	×16
NOTE inversion [NoteInvert]	×16

50. Target destinations – Performance / articulation destinations

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Probability [NoteProb]	×16
Density [Dense]	×16
Strum [Strum]	×16
Swing [Swing]	×16
Approach [Approach]	×16
Fill [Fill]	×16
Velocity [VelBase]	×16
Length [LenBase]	×16
Ratchet [Ratchet]	×16

50. Target destinations – Performance / articulation destinations (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Random amount [NoteRndAmount]	×16
APPR follows STRUM [ApproachStrum]	×16
APPR follows RATCH [ApproachRatchet]	×16
STRUM follows RATCH [StrumRatchet]	×16
Ratchet mode [RatchetMode]	×16
Ratchet length [RatchetLength]	×16
Approach Humanizer [ApproachHuman]	×16
Velocity Humanizer [VelocityHuman]	×16
Ratchet (32) [Ratchet32]	×16
Strum Humanizer (bipolar) [StrumHumanBipolar]	×16
Ratchet Humanizer (bipolar) [RatchetHumanBipolar]	×16
Ratchet quantization [RatchetGrid]	×16
Length quantization [LengthGrid]	×16
Ratchet timing (bipolar) [RatchetTiming]	×16
TIE (bipolar) [TieTiming]	×16
Repeat mode [RepeatMode]	×16
Repeat count [RepeatCount]	×16
Force Quantize [ForceQuantize]	×16
Swing grid [SwingGrid]	×16
Swing humanization [SwingHuman]	×16
Strum quantized amount [StrumQuantizedAmount]	×16
Ratchet Velocity Decay [RatchetVelocityDecay]	×16
Ratchet Length Decay [RatchetLengthDecay]	×16
Strum Velocity Decay [StrumVelocityDecay]	×16

51. Target destinations – Other slot settings

Per receiving channel; this destination also appears in each of the 8 source menus per channel

CCNum [CCNum]	×16
CC2Num [CC2Num]	×16
Rnd Mode [RndMode]	×16
Drum Mode [DrumMode]	×16
Single Mode [SingleMode]	×16
Slot Mode [SlotMode]	×16
Run/Stop [Transport]	×16
Out Chan [OutChan]	×16
Transport [TransportPosition]	×16

52. Target destinations – QARP destinations

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Mode [QArpMode]	×16
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Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

52. Target destinations – QARP destinations (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Div [QArpDiv]	×16
Dir [QArpDir]	×16

53. Target destinations – ARP / HARM destinations

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Arp Offset [ArpOffset]	×16
Arp Latch [ArpLatch]	×16
Arp Source [ArpSource]	×16
Arp Retrig [ArpRetrig]	×16
Force Scale [ForceScale]	×16
Arp Input [ArpInput]	×16
Arp Octave [ArpOctave]	×16
Chord mapping [ArpChordMapping]	×16

54. Target destinations – KIT destinations

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Slots [KitSlots]	×16
Qarp [KitQarp]	×16
Play Mode [KitPlayMode]	×16
Sound 1 - Note [KitNote0]	×16
Sound 1 - Mute [KitMute0]	×16
Sound 1 - Solo [KitSolo0]	×16
Sound 2 - Note [KitNote1]	×16
Sound 2 - Mute [KitMute1]	×16
Sound 2 - Solo [KitSolo1]	×16
Sound 3 - Note [KitNote2]	×16
Sound 3 - Mute [KitMute2]	×16
Sound 3 - Solo [KitSolo2]	×16
Sound 4 - Note [KitNote3]	×16
Sound 4 - Mute [KitMute3]	×16
Sound 4 - Solo [KitSolo3]	×16
Sound 5 - Note [KitNote4]	×16
Sound 5 - Mute [KitMute4]	×16
Sound 5 - Solo [KitSolo4]	×16
Sound 6 - Note [KitNote5]	×16
Sound 6 - Mute [KitMute5]	×16
Sound 6 - Solo [KitSolo5]	×16
Sound 7 - Note [KitNote6]	×16
Sound 7 - Mute [KitMute6]	×16
Sound 7 - Solo [KitSolo6]	×16
Sound 8 - Note [KitNote7]	×16

54. Target destinations – KIT destinations (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Sound 8 - Mute [KitMute7]	×16
Sound 8 - Solo [KitSolo7]	×16
Sound 9 - Note [KitNote8]	×16
Sound 9 - Mute [KitMute8]	×16
Sound 9 - Solo [KitSolo8]	×16
Sound 10 - Note [KitNote9]	×16
Sound 10 - Mute [KitMute9]	×16
Sound 10 - Solo [KitSolo9]	×16
Sound 11 - Note [KitNote10]	×16
Sound 11 - Mute [KitMute10]	×16
Sound 11 - Solo [KitSolo10]	×16
Sound 12 - Note [KitNote11]	×16
Sound 12 - Mute [KitMute11]	×16
Sound 12 - Solo [KitSolo11]	×16

55. Target destinations – Algorithm controls

Per receiving channel; this destination also appears in each of the 8 source menus per channel

NOTE P1 [Algo0P0]	×16
NOTE P2 [Algo0P1]	×16
NOTE P3 [Algo0P2]	×16
NOTE P4 [Algo0P3]	×16
MOD1 P1 [Algo1P0]	×16
MOD1 P2 [Algo1P1]	×16
MOD1 P3 [Algo1P2]	×16
MOD1 P4 [Algo1P3]	×16
MOD2 P1 [Algo2P0]	×16
MOD2 P2 [Algo2P1]	×16
MOD2 P3 [Algo2P2]	×16
MOD2 P4 [Algo2P3]	×16
MOD3 P1 [Algo3P0]	×16
MOD3 P2 [Algo3P1]	×16
MOD3 P3 [Algo3P2]	×16
MOD3 P4 [Algo3P3]	×16
MOD4 P1 [Algo4P0]	×16
MOD4 P2 [Algo4P1]	×16
MOD4 P3 [Algo4P2]	×16
MOD4 P4 [Algo4P3]	×16

56. Target destinations – LFO 1

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Speed [Lfo1_rate]	×16
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Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

56. Target destinations – LFO 1 (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Rotation [Lfo1_rotation]	×16
Minimum [Lfo1_minimum]	×16
Maximum [Lfo1_maximum]	×16
Humanizer [Lfo1_human]	×16
Fade in [Lfo1_fadeInMs]	×16
Fade out [Lfo1_fadeOutMs]	×16
Phase [Lfo1_phase]	×16
Shape [Lfo1_wave]	×16
Note trigger [Lfo1_trigger]	×16
LFO enabled [Lfo1_enabled]	×16
MOD enabled [Lfo1_modEnabled]	×16
Cycle [Lfo1_cycle]	×16
locked [Lfo1_locked]	×16
Direction [Lfo1_direction]	×16
Note follow [Lfo1_noteFollow]	×16
target [Lfo1_target]	×16
Target CC [Lfo1_targetCC]	×16
Clock [Lfo1_clock]	×16
WTFO period [Lfo1_periodSeconds]	×16
seed [Lfo1_seed]	×16
Transport [Lfo1_position]	×16
Rate multiplier (bipolar) [Lfo1_rateMultiplier]	×16

57. Target destinations – LFO 2

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Speed [Lfo2_rate]	×16
Rotation [Lfo2_rotation]	×16
Minimum [Lfo2_minimum]	×16
Maximum [Lfo2_maximum]	×16
Humanizer [Lfo2_human]	×16
Fade in [Lfo2_fadeInMs]	×16
Fade out [Lfo2_fadeOutMs]	×16
Phase [Lfo2_phase]	×16
Shape [Lfo2_wave]	×16
Note trigger [Lfo2_trigger]	×16
LFO enabled [Lfo2_enabled]	×16
MOD enabled [Lfo2_modEnabled]	×16
Cycle [Lfo2_cycle]	×16
locked [Lfo2_locked]	×16
Direction [Lfo2_direction]	×16
Note follow [Lfo2_noteFollow]	×16

57. Target destinations – LFO 2 (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

target [Lfo2_target]	×16
Target CC [Lfo2_targetCC]	×16
Clock [Lfo2_clock]	×16
WTFO period [Lfo2_periodSeconds]	×16
seed [Lfo2_seed]	×16
Transport [Lfo2_position]	×16
Rate multiplier (bipolar) [Lfo2_rateMultiplier]	×16

58. Target destinations – LFO 3

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Speed [Lfo3_rate]	×16
Rotation [Lfo3_rotation]	×16
Minimum [Lfo3_minimum]	×16
Maximum [Lfo3_maximum]	×16
Humanizer [Lfo3_human]	×16
Fade in [Lfo3_fadeInMs]	×16
Fade out [Lfo3_fadeOutMs]	×16
Phase [Lfo3_phase]	×16
Shape [Lfo3_wave]	×16
Note trigger [Lfo3_trigger]	×16
LFO enabled [Lfo3_enabled]	×16
MOD enabled [Lfo3_modEnabled]	×16
Cycle [Lfo3_cycle]	×16
locked [Lfo3_locked]	×16
Direction [Lfo3_direction]	×16
Note follow [Lfo3_noteFollow]	×16
target [Lfo3_target]	×16
Target CC [Lfo3_targetCC]	×16
Clock [Lfo3_clock]	×16
WTFO period [Lfo3_periodSeconds]	×16
seed [Lfo3_seed]	×16
Transport [Lfo3_position]	×16
Rate multiplier (bipolar) [Lfo3_rateMultiplier]	×16

59. Target destinations – LFO 4

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Speed [Lfo4_rate]	×16
Rotation [Lfo4_rotation]	×16
Minimum [Lfo4_minimum]	×16
Maximum [Lfo4_maximum]	×16
Humanizer [Lfo4_human]	×16

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

59. Target destinations – LFO 4 (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

Fade in [Lfo4_fadeInMs]	×16
Fade out [Lfo4_fadeOutMs]	×16
Phase [Lfo4_phase]	×16
Shape [Lfo4_wave]	×16
Note trigger [Lfo4_trigger]	×16
LFO enabled [Lfo4_enabled]	×16
MOD enabled [Lfo4_modEnabled]	×16
Cycle [Lfo4_cycle]	×16
locked [Lfo4_locked]	×16
Direction [Lfo4_direction]	×16
Note follow [Lfo4_noteFollow]	×16
target [Lfo4_target]	×16
Target CC [Lfo4_targetCC]	×16
Clock [Lfo4_clock]	×16
WTFO period [Lfo4_periodSeconds]	×16
seed [Lfo4_seed]	×16
Transport [Lfo4_position]	×16
Rate multiplier (bipolar) [Lfo4_rateMultiplier]	×16

60. Target destinations – MIDI CC output destinations

Per receiving channel; this destination also appears in each of the 8 source menus per channel

CC #0 [CCOutput0]	×16
CC #1 [CCOutput1]	×16
CC #2 [CCOutput2]	×16
CC #3 [CCOutput3]	×16
CC #4 [CCOutput4]	×16
CC #5 [CCOutput5]	×16
CC #6 [CCOutput6]	×16
CC #7 [CCOutput7]	×16
CC #8 [CCOutput8]	×16
CC #9 [CCOutput9]	×16
CC #10 [CCOutput10]	×16
CC #11 [CCOutput11]	×16
CC #12 [CCOutput12]	×16
CC #13 [CCOutput13]	×16
CC #14 [CCOutput14]	×16
CC #15 [CCOutput15]	×16
CC #16 [CCOutput16]	×16
CC #17 [CCOutput17]	×16
CC #18 [CCOutput18]	×16
CC #19 [CCOutput19]	×16

60. Target destinations – MIDI CC output destinations (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

CC #20 [CCOutput20]	×16
CC #21 [CCOutput21]	×16
CC #22 [CCOutput22]	×16
CC #23 [CCOutput23]	×16
CC #24 [CCOutput24]	×16
CC #25 [CCOutput25]	×16
CC #26 [CCOutput26]	×16
CC #27 [CCOutput27]	×16
CC #28 [CCOutput28]	×16
CC #29 [CCOutput29]	×16
CC #30 [CCOutput30]	×16
CC #31 [CCOutput31]	×16
CC #32 [CCOutput32]	×16
CC #33 [CCOutput33]	×16
CC #34 [CCOutput34]	×16
CC #35 [CCOutput35]	×16
CC #36 [CCOutput36]	×16
CC #37 [CCOutput37]	×16
CC #38 [CCOutput38]	×16
CC #39 [CCOutput39]	×16
CC #40 [CCOutput40]	×16
CC #41 [CCOutput41]	×16
CC #42 [CCOutput42]	×16
CC #43 [CCOutput43]	×16
CC #44 [CCOutput44]	×16
CC #45 [CCOutput45]	×16
CC #46 [CCOutput46]	×16
CC #47 [CCOutput47]	×16
CC #48 [CCOutput48]	×16
CC #49 [CCOutput49]	×16
CC #50 [CCOutput50]	×16
CC #51 [CCOutput51]	×16
CC #52 [CCOutput52]	×16
CC #53 [CCOutput53]	×16
CC #54 [CCOutput54]	×16
CC #55 [CCOutput55]	×16
CC #56 [CCOutput56]	×16
CC #57 [CCOutput57]	×16
CC #58 [CCOutput58]	×16
CC #59 [CCOutput59]	×16
CC #60 [CCOutput60]	×16

Actionable controls, continued.

×16 = in each channel. ×1 = one shared command. Bank, row and step multipliers appear beside each category.

60. Target destinations – MIDI CC output destinations (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

CC #61 [CCOutput61]	×16
CC #62 [CCOutput62]	×16
CC #63 [CCOutput63]	×16
CC #64 [CCOutput64]	×16
CC #65 [CCOutput65]	×16
CC #66 [CCOutput66]	×16
CC #67 [CCOutput67]	×16
CC #68 [CCOutput68]	×16
CC #69 [CCOutput69]	×16
CC #70 [CCOutput70]	×16
CC #71 [CCOutput71]	×16
CC #72 [CCOutput72]	×16
CC #73 [CCOutput73]	×16
CC #74 [CCOutput74]	×16
CC #75 [CCOutput75]	×16
CC #76 [CCOutput76]	×16
CC #77 [CCOutput77]	×16
CC #78 [CCOutput78]	×16
CC #79 [CCOutput79]	×16
CC #80 [CCOutput80]	×16
CC #81 [CCOutput81]	×16
CC #82 [CCOutput82]	×16
CC #83 [CCOutput83]	×16
CC #84 [CCOutput84]	×16
CC #85 [CCOutput85]	×16
CC #86 [CCOutput86]	×16
CC #87 [CCOutput87]	×16
CC #88 [CCOutput88]	×16
CC #89 [CCOutput89]	×16
CC #90 [CCOutput90]	×16
CC #91 [CCOutput91]	×16
CC #92 [CCOutput92]	×16
CC #93 [CCOutput93]	×16
CC #94 [CCOutput94]	×16
CC #95 [CCOutput95]	×16
CC #96 [CCOutput96]	×16
CC #97 [CCOutput97]	×16
CC #98 [CCOutput98]	×16
CC #99 [CCOutput99]	×16
CC #100 [CCOutput100]	×16
CC #101 [CCOutput101]	×16

60. Target destinations – MIDI CC output destinations (continued)

Per receiving channel; this destination also appears in each of the 8 source menus per channel

CC #102 [CCOutput102]	×16
CC #103 [CCOutput103]	×16
CC #104 [CCOutput104]	×16
CC #105 [CCOutput105]	×16
CC #106 [CCOutput106]	×16
CC #107 [CCOutput107]	×16
CC #108 [CCOutput108]	×16
CC #109 [CCOutput109]	×16
CC #110 [CCOutput110]	×16
CC #111 [CCOutput111]	×16
CC #112 [CCOutput112]	×16
CC #113 [CCOutput113]	×16
CC #114 [CCOutput114]	×16
CC #115 [CCOutput115]	×16
CC #116 [CCOutput116]	×16
CC #117 [CCOutput117]	×16
CC #118 [CCOutput118]	×16
CC #119 [CCOutput119]	×16
CC #120 [CCOutput120]	×16
CC #121 [CCOutput121]	×16
CC #122 [CCOutput122]	×16
CC #123 [CCOutput123]	×16
CC #124 [CCOutput124]	×16
CC #125 [CCOutput125]	×16
CC #126 [CCOutput126]	×16
CC #127 [CCOutput127]	×16

61. Target menu shortcuts and None

8 source menus per channel; 421 destinations +26 shortcuts =447 entries per source menu

None	×16
Velocity	×16
Length	×16
CC (pick)	×16
Transpose	×16
Scale	×16
Chord	×16
Octave	×16
Steps	×16
Rotation	×16
Prob	×16

Actionable controls, continued.

x16 = in each channel. x1 = one shared command. Bank, row and step multipliers appear beside each category.

61. Target menu shortcuts and None (continued)

8 source menus per channel; 421 destinations +26 shortcuts =447 entries per source menu

Dense	x16
Tie	x16
Strum	x16
Swing	x16
Note Human	x16
Ratchet	x16
Note Div	x16
Note Div (512 bars)	x16
Smooth Pitch	x16
Pitch	x16
Approach	x16
Dest	x16
Fill	x16
Direction	x16
A.Rot	x16