AS Seqs & Tools v2.1.0 User manual

New in V 2.1.0

Dark and Light theme



To change theme: Mouse right click ->Panel -> Follow Rack/Light/Dark



Change log:

2.1.0 - Requires VCV Rack 2.4.0 or later.

New

Panel theme per module: Right-click a module > Panel: Follow Rack, Light or Dark. The choice is saved with the patch.

ReQ is now polyphonic: The CV input and output carry up to 16 channels, each quantized independently. Root, Scale and Range CV stay monophonic; the display shows channel 1.

ReQ range response: Right-click > Range response: Unipolar (0 V up, as before) or Bipolar (centered on 0 V, so a MIDI keyboard below C4 also works). Octave range keeps counting octaves: in Bipolar, 4 covers −2 V..+2 V and the display shows ±4. Applies to all channels.

New buttons: ReCon and aBy use new pad buttons with a pressed state and a radial light. ReBeat and ReBit have a matching square Reset pad.

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Change log:

ReGate overlapping gates: Right-click > Overlapping gates: Merge (as before: a pulse that arrives while the gate is high extends it) or Retrigger (the output drops for one sample and a new gate starts, so every input pulse gives a new gate). Useful after ReSwing or with long gates on fast clocks.

ReSwing (new module, 4 HP): dual clock swing. Every second clock pulse is delayed by the swing amount (50% straight, 66.7% triplet, 75% maximum) and keeps its gate length. Swing CV adds 0–25%. CLK and RST of channel 2 are normalled to channel 1. Right-click > Swing steps: Free or Steps (50, 54, 58, 62, 66.7, 71, 75%).

Changed (may alter how existing patches behave)

ReStep / ReStepOne: The first step now gets its gate. Gate length adapts to the clock (70 ms or 50% of the clock period, whichever is shorter). RUN starts and stops the whole chain; RESET returns to the first module in sync with the clock. Clock pulses are ignored for 1 ms after a reset.

ReCon: PAUSE no longer cuts or creates clock pulses.

ReQ: Notes near the top of an octave now round up to the next octave's root when it is closer (0.99 V in C major gives C, not B). The Indian scale is now 1 2 3 4 5 b6 b7 (it had a repeated note). Octave range now works as described in the manual: the input is quantized in its own octave and notes outside 0 V..range V (before the root is added) keep their name and move by octaves into it (it used to squeeze the whole 0–10 V input into that many octaves). With range 10 and a 0–10 V input nothing changes.

ReNote: The semitone CV now follows 1 V/oct, quantized to semitones (it was 2 V per semitone).

ReBeat / ReBit: Mute only silences a cell; its count keeps running, so it stays in phase when unmuted. Each cell's phase is counted from the last reset, so changing a divider live does not shift it. After a reset, each cell first fires on its own pulse.
Trigger and clock inputs in all modules use VCV's standard thresholds (high above 1 V, low below 0.1 V). ReGate's Mode CV has hysteresis.

ReFlip: Each section works on its own, depending on what is connected. Gate and clock: the clock sets when a new random value is drawn and the gate is passed according to the odds. Gate only: each gate draws its own random value. Clock only: the clock is passed according to the odds (random trigger generator). No cables: 0 V. Gates before the first clock now follow the odds too.

aBy: Fixed 10 ms crossfade that continues from the current level, so switching mid-fade no longer clicks.

ReGate: Minimum gate length of 1 ms.

Fixed

ReQ: Possible crash caused by the note display reading the note name while the audio thread was changing it.

ReFluke: Filters are set up when the module is created, and the pink filter starts from zero instead of random values; the pink filter is processed once per sample in Pink and Grey modes.

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Change log:

ReStep / ReStepOne: SEQ IN was added to the output twice. ReStep now passes SEQ IN in the -10..10 V range, like ReStepOne.
ReNote: Octave CV no longer produces fractional octaves (6 V gave +0.6 octaves).

ReKey: The mode is restored correctly when a patch is loaded.

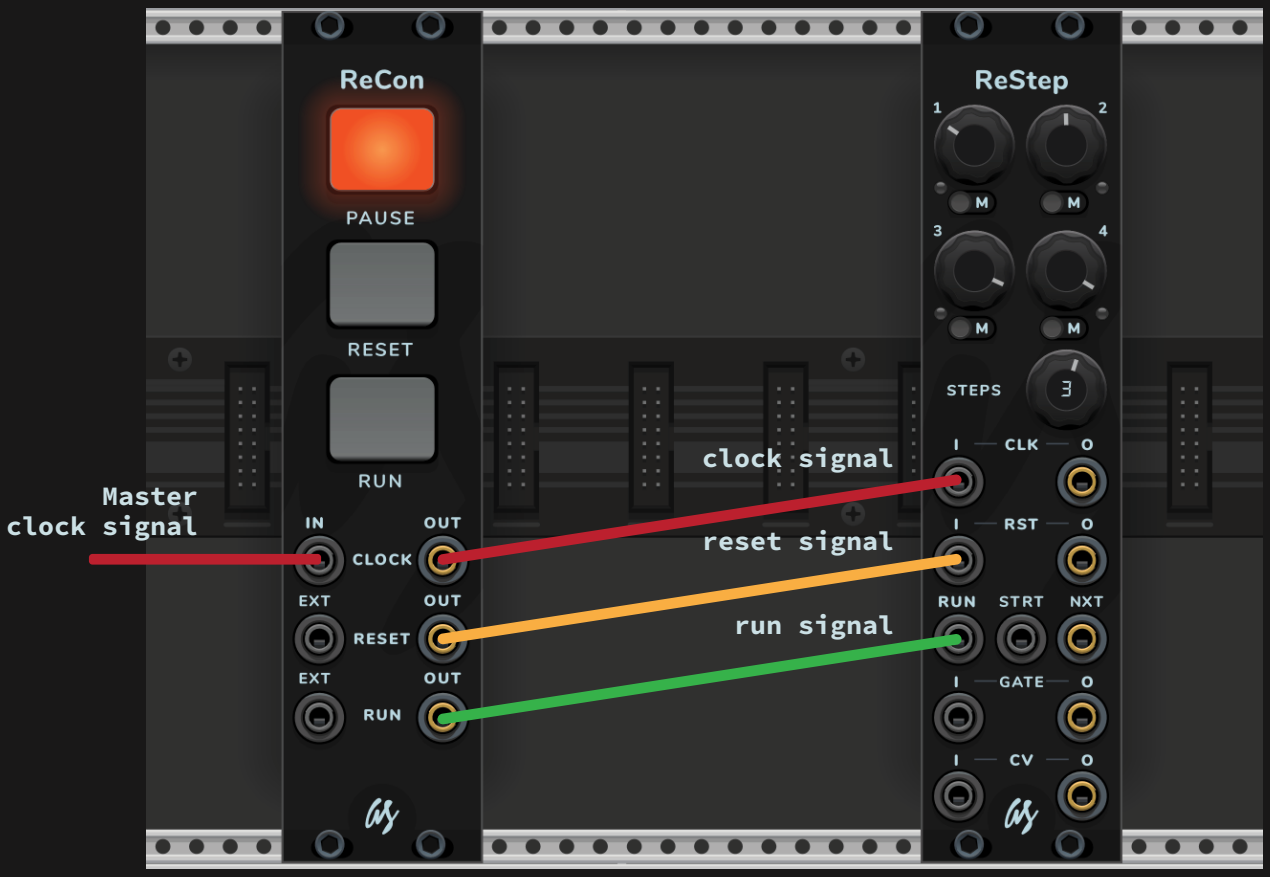
Tooltips: ReFluke shows the noise type and divider; ReGate shows the gate length in ms; ReFlip's third odds CV input is labeled correctly.

Lower CPU use in ReKey and ReBeat.

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ReCon: ReStep SEQ helper

ReCon is a helper for ReStep module, to pause, reset and stop the sequences. This is how you wire it:



Important: Connect RUN only to the first module in the chain. A module with its RUN input connected acts as the first module of the chain.

PAUSE freezes the sequence on its current step. Press it again and the sequence continues from that same step on the next clock pulse. PAUSE only takes effect between clock pulses, so it never cuts a clock pulse or adds a false one, and the sequence stays in sync with the clock. The PAUSE light stays on while the sequence is paused.

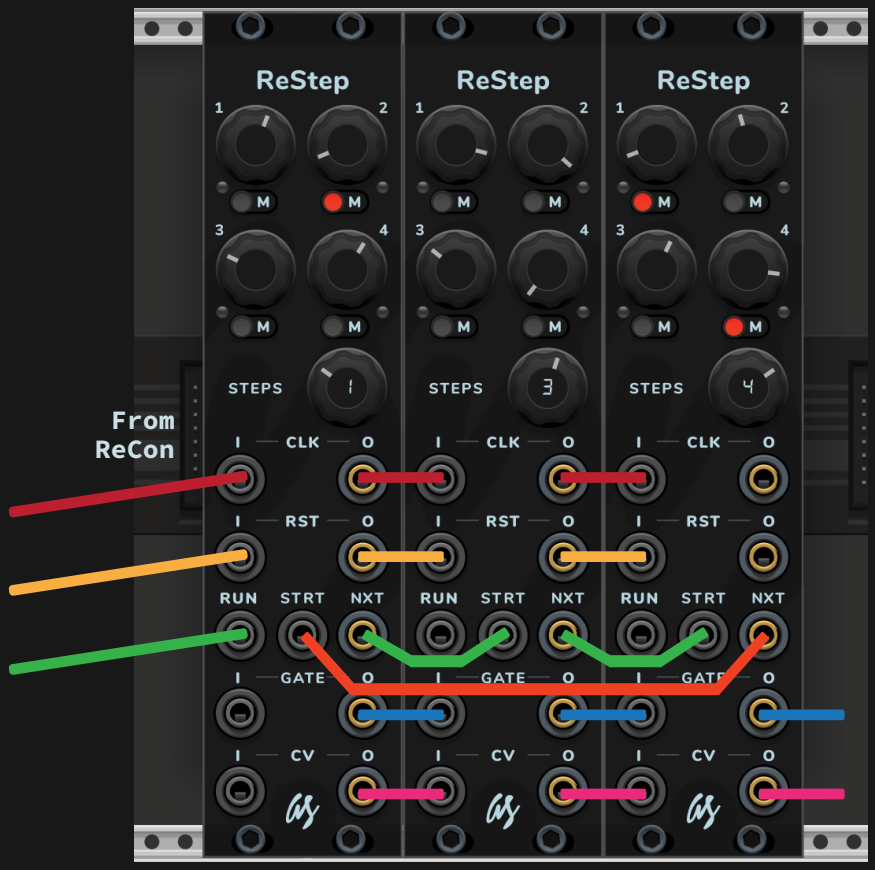
RESET sends the sequence back to step 1 of the first module, no matter which module is playing at that moment. If the sequence is running, step 1 starts on the next clock pulse. If the reset arrives together with a clock pulse (for example from a clock module's reset output), step 1 starts on that same pulse. If the sequence is stopped, Reset leaves it ready at step 1.

RUN starts and stops the whole chain. When you start it, the sequence begins at step 1 of the first module on the next clock pulse. When you stop it, every module in the chain stops at once.

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ReStep: 4 step chainable sequencer

ReStep is a 1 to 4 step chainable sequencer, you can add or remove modules to create custom length sequences as you need, even on the fly if you wish so.
This is how you chain more than one module:



clock out to clock in for every ReStep but the last.

reset out to reset in for every ReStep but the last.

nxt out to strt in for every ReStep but the last. Then connect a wire from the nxt output of the last ReStep to the strt input of the first ReStep to close the loop. Do not connect nxt to the run input of the next module: run is only for the first module (from ReCon).

gate out to gate in for every ReStep. The last gate out to a ADSR, etc.

cv out to cv in for every ReStep. The last cv out to a VCO, VCA etc.

Each step knob from 1 to 4 allows you to set up a voltage from 0 V to 10 V.
Mute "M" switch mutes the step gate out for the corresponding step.
The step still plays its CV and keeps its place in time, so the sequence stays in sync.
STEPS knob sets the length of the sequence from 1 to 4 steps.
Gate length adapts to the clock (70 ms or 50% of the clock period, whichever is shorter). At any tempo every step gets its own separate gate.

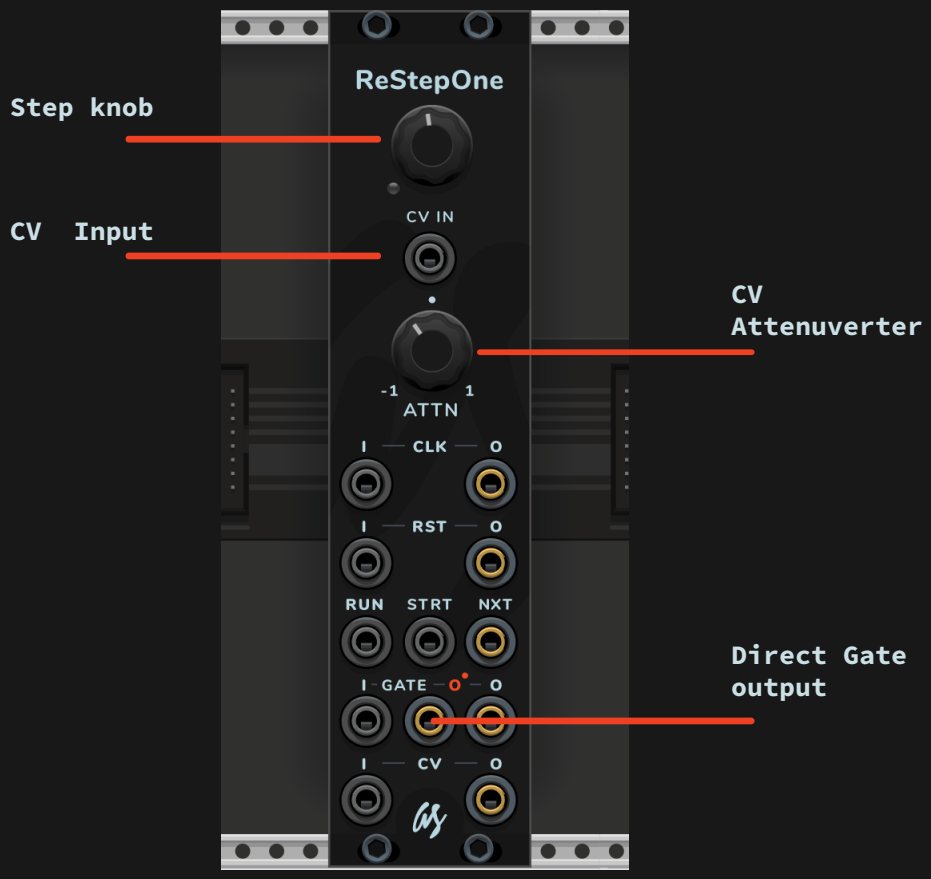
Note: If you are using a single ReStep Module you don't need to wire the strt and nxt ports, it is handled internally for you.
You still need ReCon (or any trigger) on the run input to start it.

TIP: Change the step length on each chained module on the fly as you play to mutate your sequences, infinite possibilities and always in sync!.

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ReStepOne: Single sequencer step with CV modulation

ReStepOne is a single step chainable sequencer.
Mix it with ReStep modules to build sequences of any length.



Step knob sets a voltage from 0 V to 10V. The CV input, scaled by the attenuverter, is added to it.

Gate output carries the gate of the whole chain.

The direct gate output only carries the gate of this module's step.

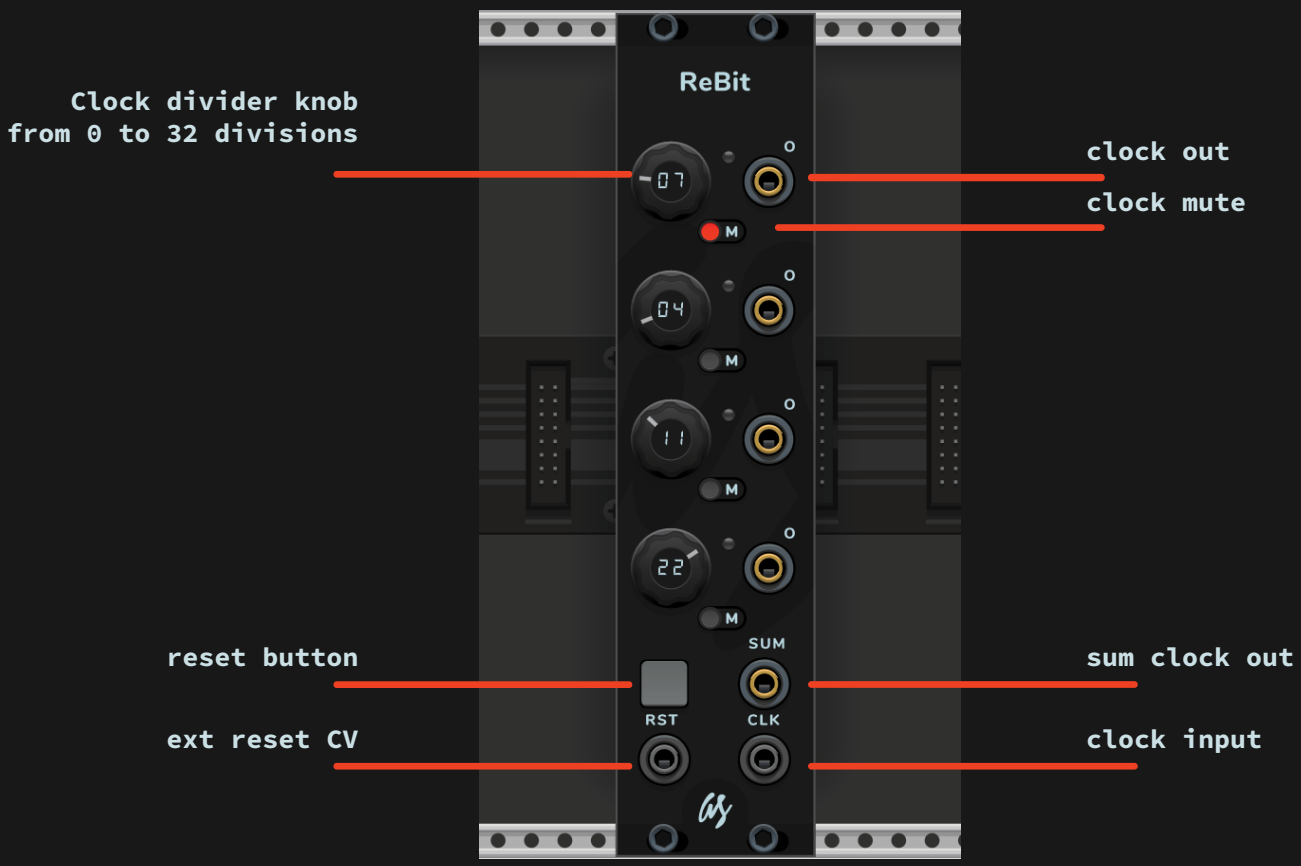
Gate length adapts to the clock the same way as in ReStep.

Note: All other inputs and outputs work the same as with ReStep module.
See ReStep page for instructions.

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ReBit: Trigger SEQ/Clock divider

ReBit is inspired by TipTop Audio Trigger Riot, this module uses 4 clock dividers in one column to create trigger patterns using the sum output. You can also use each clock divider on its own through the direct outputs.



Simple clock divider: Set a clock divider knob to the desired division and use the direct output to trigger some other module.

Multi clock divider: Set each clock divider knob to the desired division using different lengths on each knob to create custom trigger patterns, use the sum output to trigger some other module .

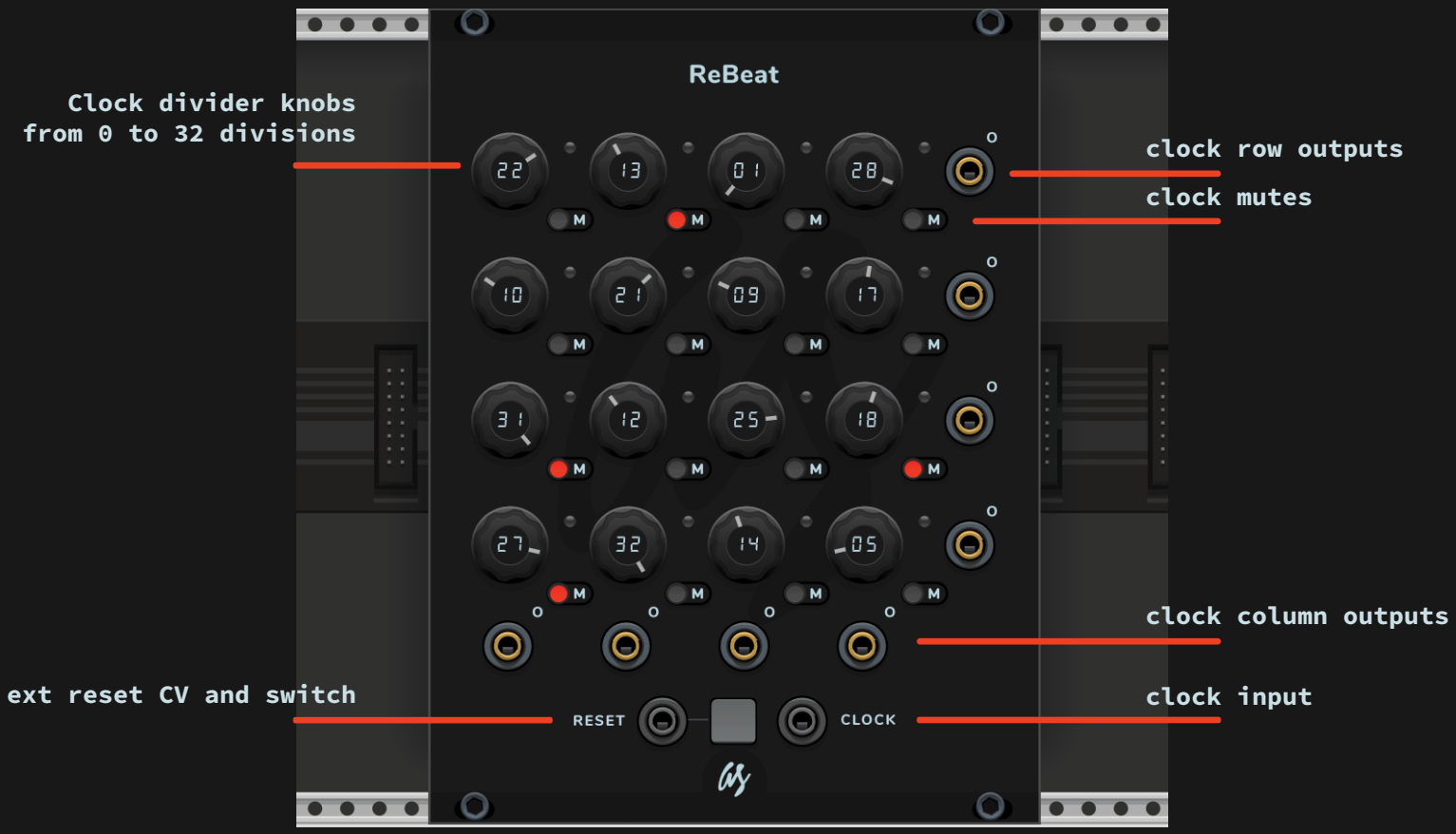
TIP: use a fast clock (16th output from BPM clock for example), or even another ReBit or ReBeat module as a source clock to create even more complex patterns.

TipTop Audio is a trademark of their owners and only used as reference.

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ReBeat: Trigger SEQ/Clock divider

Inspired by TipTop Audio Trigger Riot, ReBeat uses 4 clock dividers in a 4 rows/4 columns configuration to create custom trigger patterns using each row/column output to get different combinations



Multi clock divider: Set each clock divider knob to the desired division using different lengths on each knob to create custom trigger patterns, use either the row or the column output to send the trigger pattern to some other module.
Use the handy mute switches on each knob to change your pattern on the fly without having to change the knob value.
A muted divider keeps counting in the background, so when you unmute it, it comes back exactly in time with the rest of the pattern.
After a reset, every divider starts counting again from the next clock pulse and fires when its turn comes: a /4 divider fires on pulses 4, 8, 12…, a /3 divider on pulses 3, 6, 9….
Patch the reset output of your clock module to the reset input to keep all your patterns locked to the bar. A divider set to 0 is off.
You can change any divider on the fly: it stays locked to the bar.

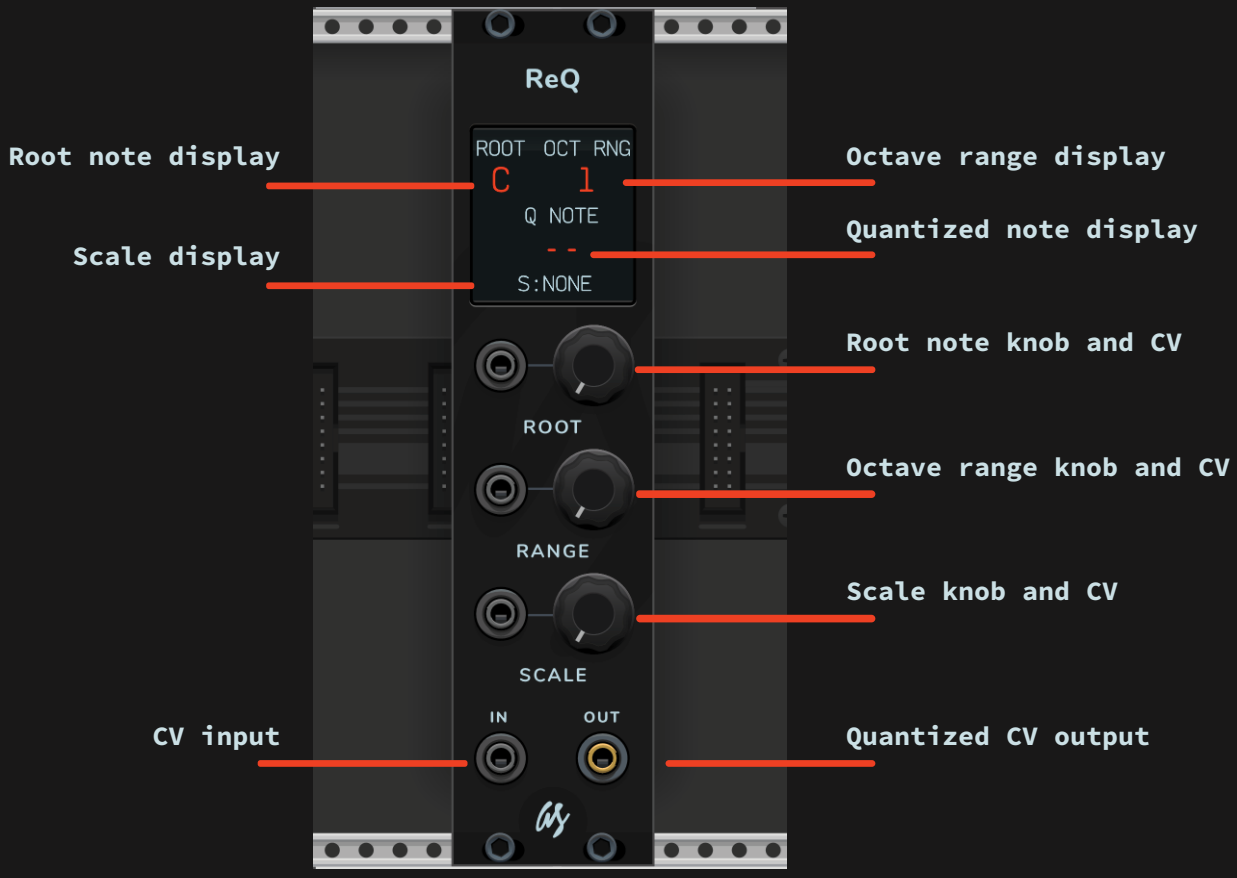
TIP: use a fast clock (16th output from BPM clock for example), or even another ReBit or ReBeat module as a source clock to create even more complex patterns.
This module is best suited to create amazing drum patterns,
but you can get creative and use it to trigger sequences, etc.

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ReQ: Scale & Octave Quantizer

Set the root note, Octave range and scale on this module, then set your sequencer notes in realtime thanks to the Q NOTE display, can't get any easier.



Root knob: set the desired root note, quantizing will start from that note.

Octave range knob: set the desired octave range from 1 to 10, this controls the final output range. Setting the range to 1 for example, narrows the output quantizing to 1 octave, transposing any note outside this range: it keeps its name and moves by octaves into the range. Notes above the range go to its top octave, notes below it go to its bottom octave. The root note is added after the range is applied.

Range response (right-click menu): sets where the octave range sits.
Unipolar (0 V up): the range starts at 0 V (C4) and goes up. With the range at 4 it covers 0 V to +4 V. Ideal for sequencers with 0–10 V knobs.
This is the default and how older patches load.
Bipolar (centered on 0 V): the range is centered on 0 V, so a MIDI keyboard below C4 also works. With the range at 4 it covers −2 V to +2 V; with an odd range the extra octave goes up (3 covers −1 V to +2 V). The octave range display shows ±4. The knob tooltip shows the current voltage window.

Scale knob: select the desired quantizing scale, available options are:

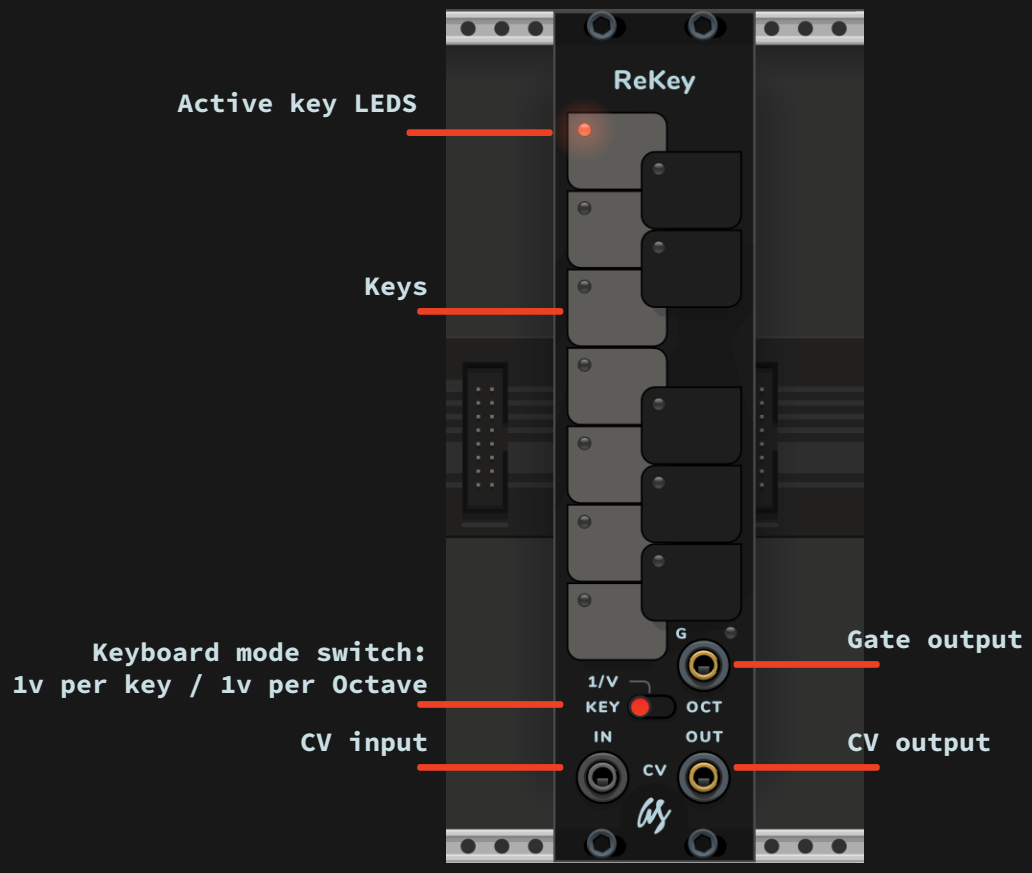
None, Chromatic, Major, Minor, Harmonic Minor, Melodic Minor, Natural Minor, Diatonic Minor, Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, Locrian, Pentatonic, Blues, Turkish, Indian.

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ReKey: 1V/OCT-KEY Keyboard

In “1/V KEY” mode, this module works as a ReQ helper, wire the CV output to the root CV input on ReQ, and you can transpose the root note by hand on the fly just by pressing the intended key.

If you feed a 1V/OCT signal to the CV IN port, in “1/V KEY” mode, this signal will also be scaled to work with ReQ. In 1/V OCT mode the signal will be summed with the current key value and sent to the output.



KB mode switch: Select KEY to use it as a ReQ helper, select OCT to use it as a simple 1 octave keyboard to send notes manually to a VCO for example.
Gate output: A gate signal is activated when you press any key, and stays active as long as the key is pressed. Send this output to ADSR modules, etc.

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ReNote: Octave & Semitone transposer

Change your sequence octave and semitones via three Independent channels. You can also feed a single cv to the uppermost channel and thanks to the normalized inputs, use the other two channels to create chords on the fly without any hassle.



Octave knob: set the octave transposing, from -3 to 3 octaves.

Semi tone knob: set semi tone transposing from -7 to 7 semitones.

Octave cv: 0 V to 10 V sweeps the octave transposing from -3 to 3 octaves (5 V = no change). It is added to the Octave knob.

Semi tone cv: standard 1 V/oct input, quantized to semitones (each 1/12 V adds one semitone, 1 V adds a full octave). It is added to the Semi tone knob. Patch a keyboard such as ReKey, a quantizer such as ReQ, or any 1 V/oct sequence here to transpose the channel by exactly the notes it plays. Accepts -10 V to 10 V.

CV input: when no wire is connected to the channel inputs 2 and 3, each of those channels use the previous channel input signal, so you can create chords from just a single input (using the first channel as a master input).

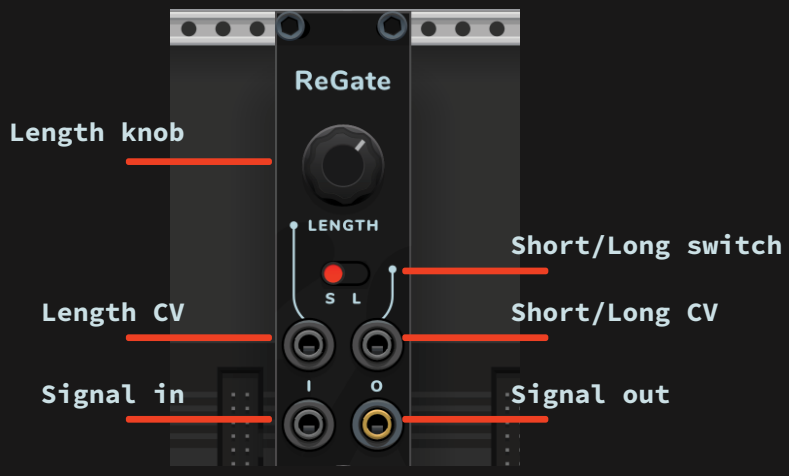
TIP: You can chain channels to get even wider range if needed, just connect the output from channel 1 to the input on channel 2 and so on.

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ReGate: Trigger to variable length Gate converter

(Also Gate to trigger converter)

A 2 channels Trigger to Gate (and Gate to Trigger) variable length converter. Feed the input with a clock signal to convert it to a gate with cv modulable length (and short/long range via switch or cv) for amazing results when controlling an ADSR module or whatever you think of.



Length knob: Set the length of the output gate signal.

Short/Long switch: Change the range of the gate length.
You can control both functions via dedicated cv inputs for automated fun.

If you feed the input with a gate signal, you can turn it into a trigger signal too by setting a short signal length. Feed a gate signal coming out of a sequencer to change the signal length .Feed a Gate signal and convert it to a Trigger signal.

Gate length: 1 ms to 70 ms in Short mode, 1 ms to 490 ms in Long mode.
The tooltip shows the length in ms.
Overlapping gates (right-click menu): sets what happens when a new pulse arrives while the gate is still high.

Merge: the gate is extended. Consecutive pulses become one long gate (useful for ties or slides). This is the default and how older patches load.

Retrigger: the output drops for one sample and a new gate starts with its full length, so every input pulse gives a new gate. Use it when the gate length is longer than the time between pulses, for example after ReSwing.

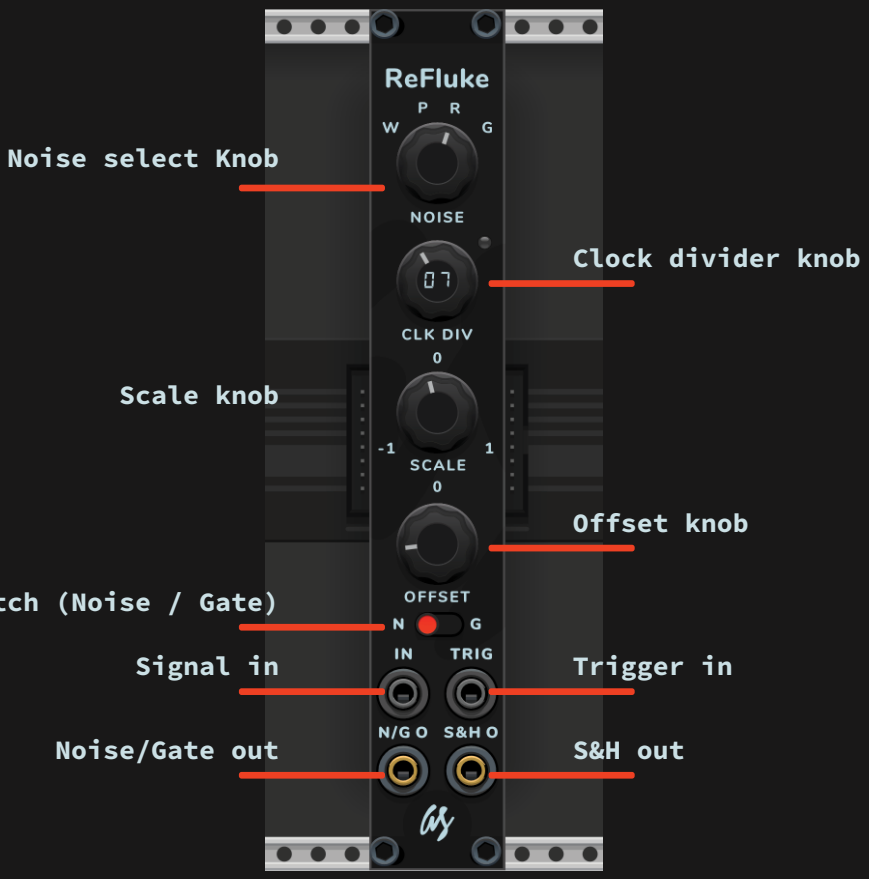
TIP: Wire the module output to an ADSR and use this ADSR to control a filter resonance, then automate the ReGate module response via the cv inputs.

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ReFluke: Noise, Sample & Hold and Gate generator

Noise generator: select from 4 noise flavors: White, Pink, Red and Grey.
Sample & hold: use the internal noise generator or feed your own signal to create custom voltages, and tweak the speed, scale and offset with the included clock divider and attenuverter controls, no need for extra modules.

Gate generator: convert the clock input into a short gate to trigger envelopes, etc. Just use the switch to change the output port from noise to gate and you are ready to go.



Noise knob: Select the noise flavor from white, pink, red and grey.

Clock divider knob: divides the clock input by 1 to 16 to change the s&h speed.

Scale knob: set the range for the s&h output, from -1 to 1, 1 represents the full 10V range.

Offset knob: set a higher or lower cv offset for the s&h output.

Range switch: change the N/G output from Noise to Gate as needed.

TIP: Feed any modulation source to the signal input to override the internal noise generator if you want a different s&h behavior, use an LFO signal for example.

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ReFlip: Random Gate switch

You can add gate probability to any sequencer module!



Connect a clock signal to the clock INPUT, connect the gate input and output and turn the ODDS knob to increase or decrease the probability of the input gate being forwarded to the output. You can also modulate the probability with the ODDS CV input. Each clock tick received will generate a new random value to calculate the output probability. Gates that arrive before the first clock also follow the odds.

Patching options (for each section):

Gate and clock: the clock sets when a new random value is drawn; the gate is forwarded according to the odds.

Gate only: each incoming gate draws its own random value.

Clock only: the clock itself is forwarded according to the odds, turning ReFlip into a random trigger generator.

No cables: the output stays at 0 V

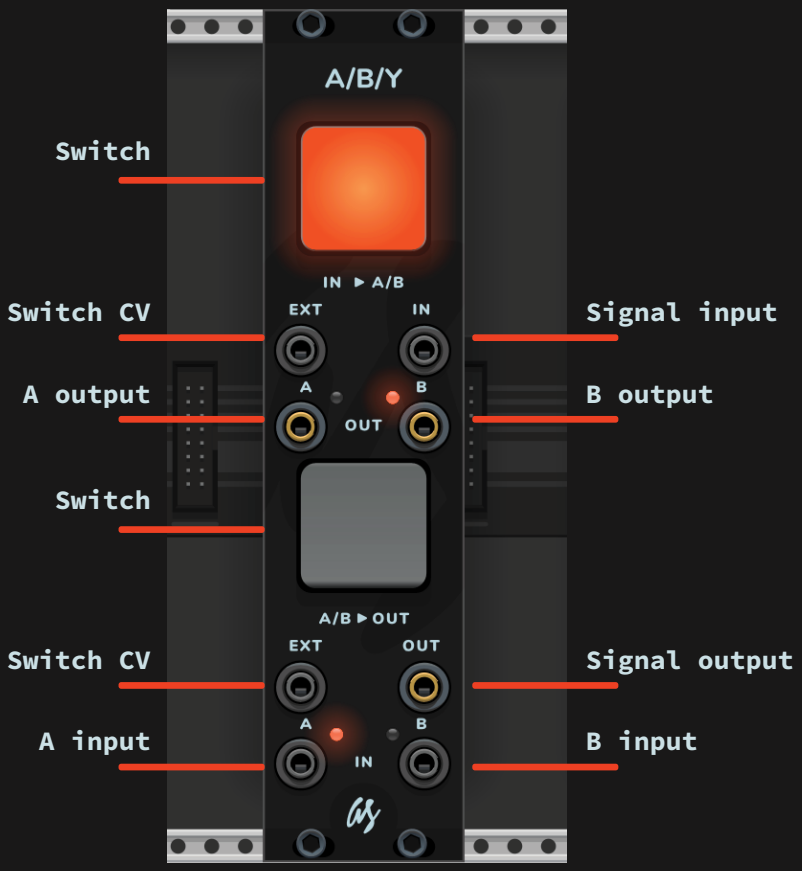
The three sections are fully independent.
Each one only uses its own CLK input.

TIP: Usually you'll want to use the same clock speed as used on your sequencer modules but don't stop there, try a different clock speed, or use a ReBit module to feed a custom clock input to get even more randomness!.

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A/B/Y: ABY switch

Route your INPUT signal path to OUTPUTS A or B,
or route your INPUT signals A or B to the OUTPUT easily
with the included switches or a manual or sequenced external source.



IN > A/B(top channel): Route your INPUT signal path to OUTPUTS A or B with a click, or using the dedicated cv input.

A/B > OUT(bottom channel): Route your A or B INPUT signals to the OUTPUT with a click, or using the dedicated cv input.

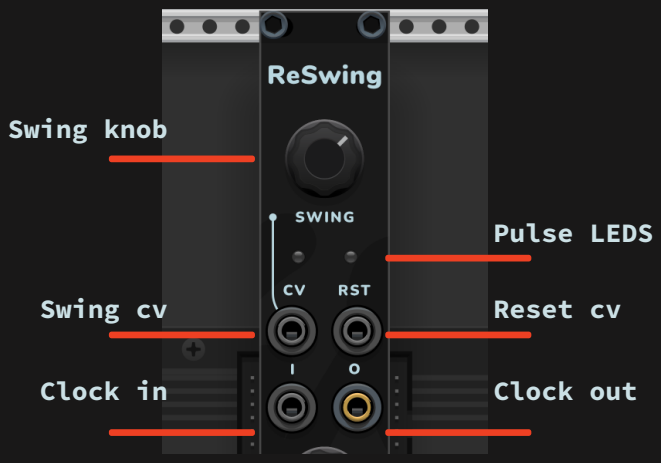
Switching uses a 10 ms crossfade, so it doesn't click,
even when you switch again in the middle of a fade.

TIP: Use the dedicated cv inputs to automate signal routing as needed.

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ReSwing: Dual clock swing

ReSwing delays every second pulse of a clock or gate sequence to give it a shuffle feel. It has two identical channels.



Swing knob: sets the swing from 50% to 75%. At 50% the clock passes straight. At 66.7% the delayed pulse lands on a triplet. 75% is the maximum. The swing is the point inside each pair of pulses where the second pulse falls. The tooltip shows the value and marks "straight" (50%) and "triplet" (66.7%).

CV input: 0 V to 10 V adds 0% to 25% to the knob. The result is limited to 75%. Set the knob to 50% to use the full CV range.

Clock input: Clock, trigger or gate. ReSwing measures the time between pulses. The first pulse of each pair passes on time and follows the input gate. The second pulse is delayed and keeps the length of the input gate. The swing is read when the second pulse arrives.

Reset input: The next pulse is on time. A delayed pulse that has not started yet is cancelled. Connect it to the same reset as your sequencer so the swing stays aligned with the pattern.

Output: The swung clock or gates.

Lights: Green flashes on the on-time pulses, orange on the delayed pulses.

Channel 2: its clock and reset inputs are normalled to channel 1. With only channel 1 patched, both channels follow the same clock, each with its own swing.

Right-click menu:

Swing steps: Free (any value) or Steps (50, 54, 58, 62, 66.7, 71 and 75%).In Steps, the knob plus CV snaps to the nearest step. Applies to both channels.

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ReSwing notes

ReSwing needs two pulses to measure the clock. The first pulse after starting, or after the clock stops for more than 10 seconds, passes straight and counts as on time

Clocks faster than 4 ms per pulse pass unchanged.

Every gate ends 1 ms before the next pulse, so the next module always sees a new pulse. With long gates and high swing, the delayed gates come out shorter.

If the clock speeds up and a new pulse arrives before a delayed pulse has started, the delayed pulse is skipped.

For gates of a fixed length, patch ReGate after ReSwing.

To be continued...