Silent Colors

ACANTO

A Rhythmically Independent & Polyphonic Sequencer

User's Guide

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licensing & system requirements

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ABOUT ACANTO

acanthus

[*uh*-**kan**-th*uh* s]

1. any of several plants of the genus *Acanthus,* of the Mediterranean region, having spiny or toothed leaves and showy, white or purplish flowers.

2. an architectural ornament, resembling the leaves of this plant; also the basic motif used for creating patterns in the *Arabesque* artforms.

The inspiration behind designing this sequencer stems from the idea of wanting to play around with patterns and pattern formations, but in doing so to give priority to more immediate user interaction with a sequencer and to allow for the musical idea to be as independent as possible from the constrains of a digital system. I hope this will make more sense once you become familiar with Acanto's features and have played around a bit with the instrument.

What does it mean for a sequencer to be rhythmically independent?

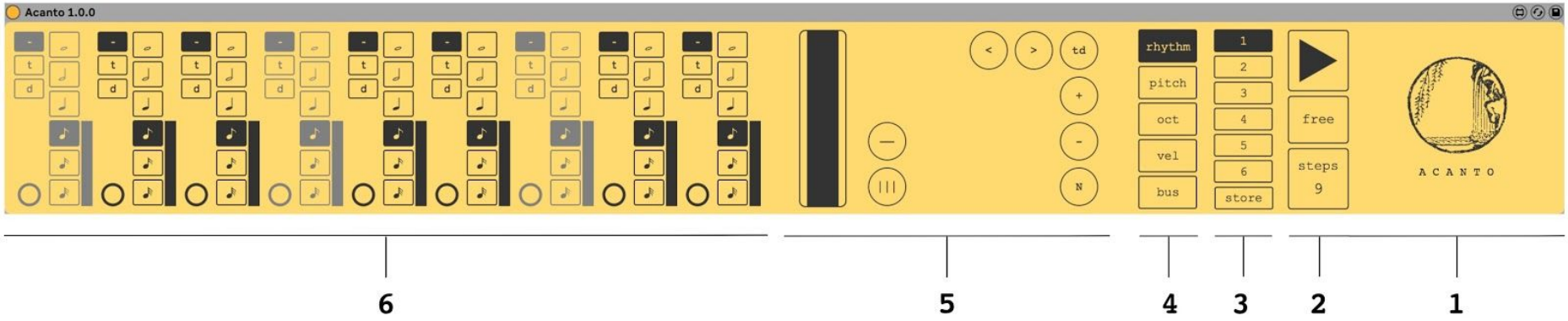
1. Acanto's transport is independent of Live's transport: you can play the sequencer in 'free mode' regardless if Live is actually playing or not. But you can also choose to quantize the start time to follow the next 8th note, quarter note, or bar.
2. The number of steps in a particular sequence can vary (this is rather standard by now in most sequencers). An Acanto sequence can have up to 9 steps, in case you are dealing with triplets and/or some kind of 3/4 meter.
3. Each step can have a variable rhythmic value, independent of the others — in contrast with traditional sequencers, which give the same rhythmic value to all the steps (they are *all* set to 8th notes, or 16th notes, etc.).

What does it mean for Acanto to be 'polyphonic'?

Well, sequencers don't actually make any sound, they *instruct instruments* to do so. The use of the term is not meant in the traditional sense (as in a synthesizer having multiple oscillators), it just refers to the ability to 'play multiple voices': in addition to its direct MIDI output, each step inside Acanto can be routed to an 'Acanto Bus,' an extension of the sequencer that can be instantiated on a separate MIDI track. Acanto features 8 independent 'MIDI busses.' For example, one could have a sequence of 8 notes, each triggering a different instrument (or external MIDI output) in Live. Even though Live Drum Racks are great to play different sounds (and one could just place a Drum Rack after Acanto), the sequencer's bus routing is meant to give you a different kind of flexibility, since changing pitches — on a single step — in Acanto will still play the same timbre (as opposed to a different device altogether).

GETTING STARTED

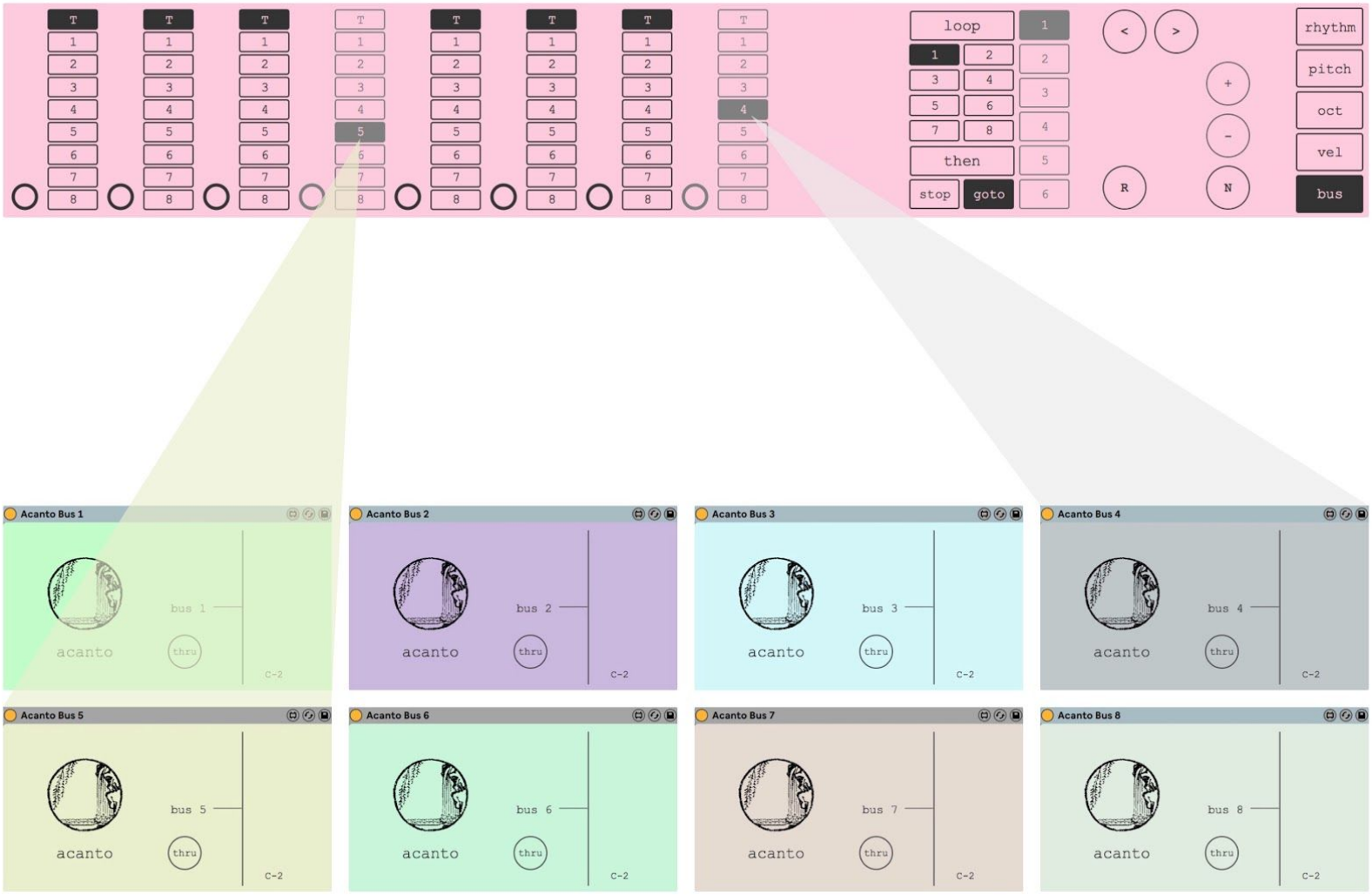
Here's a breakdown of each section of the sequencer. It will be easier to get an overview of the whole sequencer if we looked at them in a general order from right to left...



1. **Logo** & color button: lets you choose from 8 accent colors (useful when you're running multiple instances of the device), 4 stock colors (yellow, green, blue, pink) which alternate with random colors (click on the logo once, you'll get a random color, click again, you'll get a stock color, and so on).
2. **Transport Tab**:
    a. Transport button
    b. Play quantization:
        Free: Makes the transport button completely independent from Live's Transport.
        8n/4n/bar: Quantizes the start of the sequencer to the next eighth, quarter or bar.
    c. Steps: Sets the length of the sequencer, from 1-9 steps.
3. **Preset Tab**: allows you to store up to 6 different presets.

4. **Sequencer Elements Tab**: switches between the different views of the Main Sequencer Panel:
    a. Rhythm: lets you choose a rhythmic value for each step.
    b. Pitch: lets you choose a pitch value for each step.
    c. Oct: lets you transpose each note within a range of 6 octaves.
    d. Vel: lets you adjust the velocity for each note.
    e. Bus: lets you route each step to an independent bus as well as adjust your loop settings.
5. **Macro Panel**: each element has its corresponding set of global controls that lets you modify the entire sequence of values for that particular element (rhythm, pitch, etc.), in various ways (depending on the element in focus): you can shift the sequence left or right, up or down; you can also normalize values, randomize them, etc.
6. **Main Sequencer Panel**: here you can adjust individual values for each step, depending on the panel that's active (rhythm, pitch, etc.).

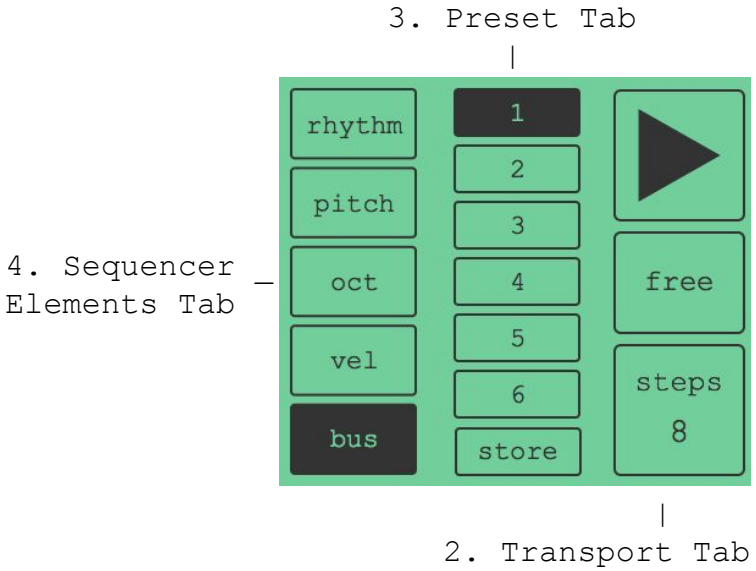
In addition to the *Acanto* device, there are eight *Acanto Bus* devices: besides being able to route MIDI to its direct (through) output, Acanto can also send the output of each step to another MIDI track, by instantiating one of the *Acanto Bus* devices at the top of that new track's device chain…



THE TRANSPORT PANEL

It's comprised of three sections:

2. Transport Tab
3. Preset Tab (or Preset Selector)
4. Sequencer Elements Tab



The Transport Tab

It's in turn divided into three parts:

- The `play/stop` Button
- `Play Quantization` Settings
- `Steps`, or Sequence Length

The Play/Stop Button

It will, of course, start and stop the sequencer. It's mapped to incoming MIDI, as follows:
- C#1 acts as a button: hit the note once, Acanto starts; hit it again, it stops.
- D#1 acts as a toggle (like a regular note on a keyboard): keep the note pressed and the sequence plays out...until you release the key.

Play Quantization Settings

Clicking on this button will toggle between 4 different triggering modes:

- `free`: when this option is active, the Acanto's transport is independent of Live's transport. In fact, Acanto can start even if Live is not running.

NOTE: If a quantized mode is enabled and Live is stopped, pressing play in Acanto will automatically start Live's transport (for the two would need to be synchronized). Pressing stop on Live's transport always stops Acanto as well.

- `8n`: this will activate 8th note quantization. After pressing `'play,'` Acanto will wait for the next 8th note to actually start.
- `4n`: in this mode, Acanto will wait for the next quarter note to start playing.
- `bar`: Acanto will wait for the next bar.

These are also mapped to MIDI note F#1, which cycles through the various modes.

Steps: Sequence Length

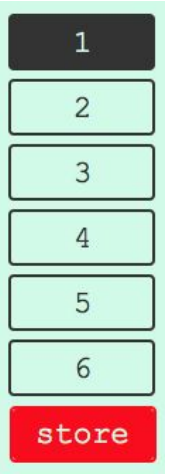
You can click and drag, or type the number of steps that you want your sequence to have. You have a range from 1-9 steps.

The Preset Tab

Acanto can store up to 6 different presets, which can be recalled in a number of ways:

- You can click on a preset to select it (if the sequencer is running, it will wait until the end of the loop to call on the new preset).
- When a preset is done playing (a predefined number of loops), it can, among other things, trigger another preset automatically.
- These are mapped to MIDI notes C1, D1, E1, F1, G1, A1 (for presets 1 - 6 respectively).

To store a preset, press once on the `store` button, which will then turn red. Then, click on the preset where you'd like your settings to be saved. The `store` button will automatically go back to it's OFF default state. If the `store` button is ON (or red), clicking on it again will cancel the operation.



*NOTE: When the device is **not** playing, preset recall is automatic; when the device **is** playing, clicking or calling another preset will wait until the end of that preset's loop (NOT Ableton's bar grid) to switch to that next preset.*

*If the **Goto Preset** is set to the same preset that's playing and you store that preset on another slot, this behavior will be imitated: for example, if **Preset 1** is set to **"go to preset 1"** and then you store it on slot 6, your new **Preset 6** will be set to **"go to preset 6"** — instead of 1 — so as to keep the 'loop to self' behavior).*

The Sequencer Elements Tab

A sequence in Acanto is made up of 5 elements:

1. `rhythm:` represents the rhythmic values of each step.
2. `pitch:` represents the note values (pitch) of each step.
3. `oct:` the octave transposition for each note.
4. `vel:` the velocity of each note.
5. `bus:` what bus each note is routed to (if not to Acanto's direct output); here you can also configure your loop settings.

This tab will switch the `Main Sequencer Panel` view so you can adjust each element accordingly.

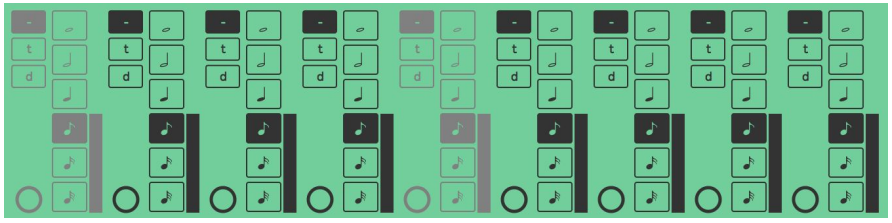
THE MAIN SEQUENCER AND MACRO PANELS

These are linked together, so let's look at each element together, and as we go, we will visit each panel respectively.

1. Rhythm

Rhythm – Main Sequencer Panel

NOTE: Acanto can have up to 9 steps, however, only the number of steps that are actually active will be in view.



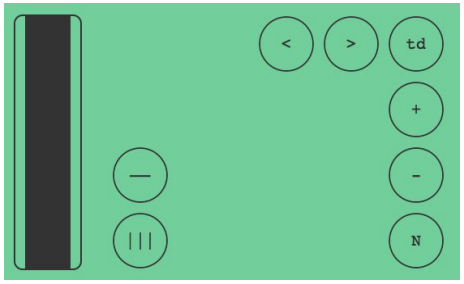
Any step can be marked as 'accented' and will have a highlighted color. These accents are defined in the `'velocity'` panel (they will be covered in the Velocity section of this chapter).

Also, every panel will have a row of circles at the bottom, which will light up with each step as it's triggered (for monitoring purposes).

There are two tabs that work together to define the rhythmic value of each step. The main tab lets you pick the actual `rhythmic value` (from a 32nd note to a whole note) and the smaller tab to the left will add a `rhythmic variation` (triplet or dotted notes).

Notice also that each rhythmic tab has a thin bar adjacent to it: it's a fader that will let you scale the duration of each note. These `duration faders` can also be scaled together, proportionately with the `duration scaler` found on the Macro Panel to the right...

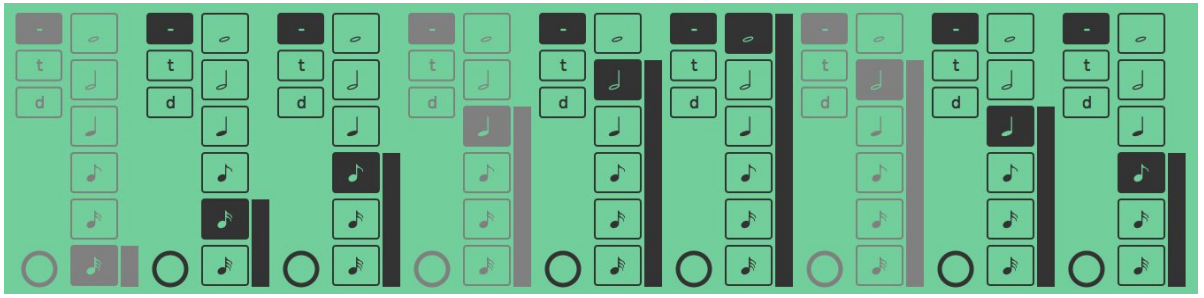
Rhythm – Macro Panel



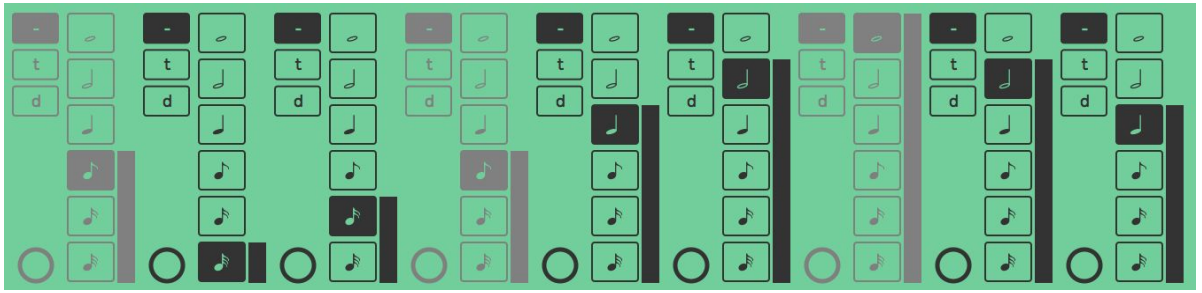
These controls affect the entire sequence of rhythmic values, as follows:

- `duration scaler:` scales the duration of the note itself, proportionately to its rhythmic value.
- `[--] reset scaler:` will reset the fader back to its maximum value while leaving the individual duration faders where they are.
- `[||||] maximize faders:` will normalize all the duration faders to their maximum rhythmic value.
- `[<] shift left`: shifts all the rhythmic values one step to the left.
- `[>] shift right`: shifts all the rhythmic values one step to the right.
- `[+] shift up`: shifts all the rhythmic values one level up.
- `[-] shift down`: shifts all the rhythmic values one level down.
- `[td] global rhythmic variation`: cycles through the three types of rhythmic variation (regular rhythm, triplets, and dotted notes), globally (affects all the steps at once).
- `[N] normalize`: resets the rhythmic value of all the steps to 8th notes, in straight rhythm.

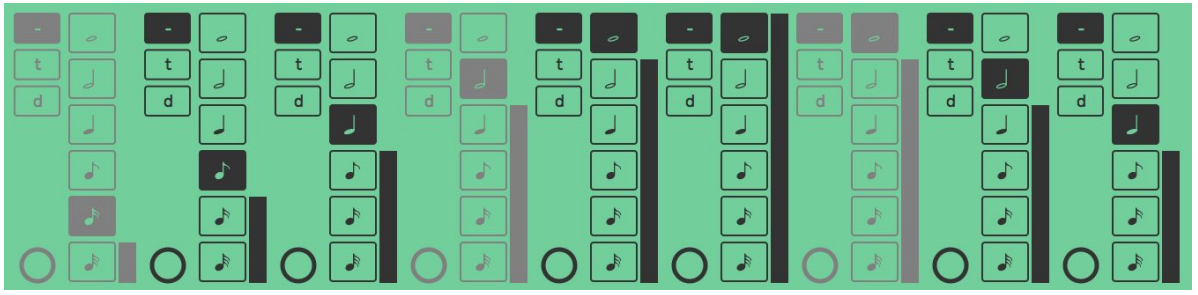
NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the rhythmic values one step to the right, the pitch sequence will still play the first step with the pitch that was originally assigned to it (the same will be true for the remaining elements).



The following variation shows the rhythm sequence shifted to the right by one step:

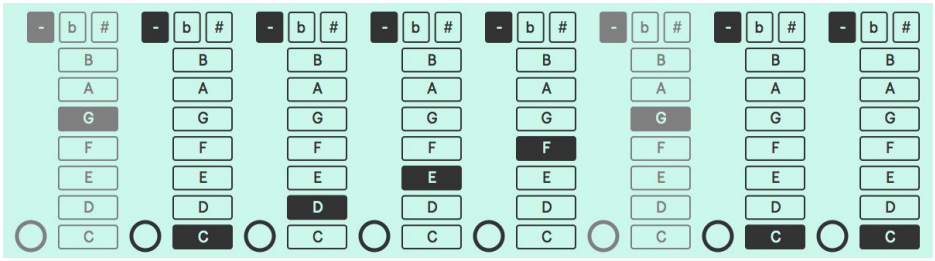


...and shifted one level up instead (notice that the duration faders kept their original value: this is on purpose – for the most part, if one's working with short notes, one would like to keep them that way; you can always click on the maximize button [||||]):



2. Pitch

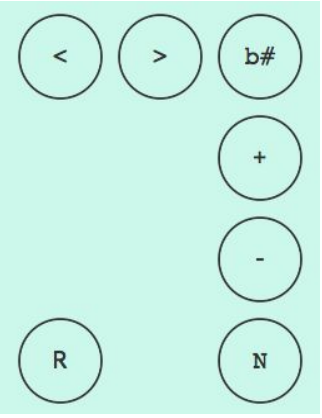
Pitch – Main Sequencer Panel



Just as with the Rhythm Sequencer Panel, the Pitch panel also has two tabs that work together to define the pitch value of each step. The main tab lets you select the actual `pitch` ("white keys") C D E F G A B (*do re mi fa sol la si*) and the smaller tab above will allow you to shift the note to an `accidental` (flat or sharp).

NOTE: When the octave transposition is set at 'zero', the pitches are indeed equivalent to C3 – B3.

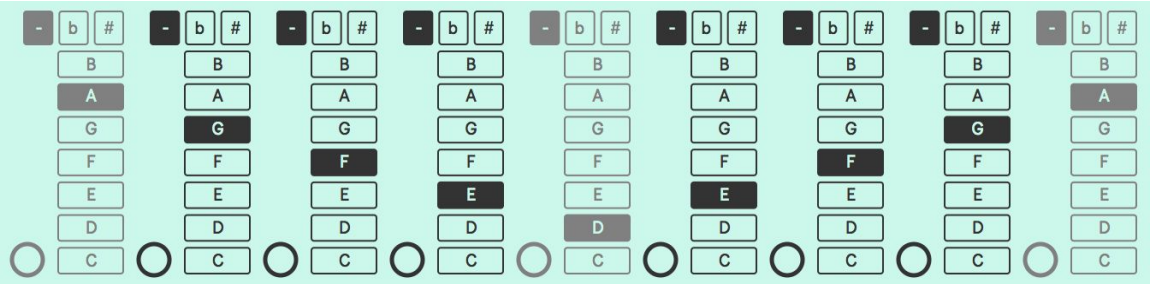
Pitch – Macro Panel



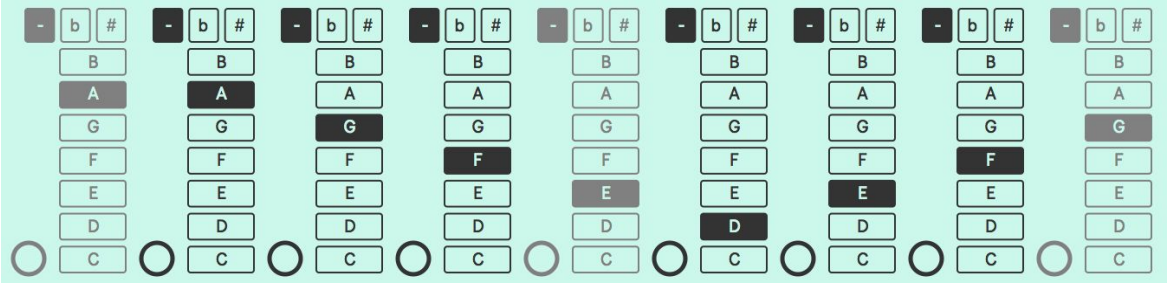
These controls affect the entire sequence of pitch values, as follows:

- `[<] shift left`: shifts all the pitches one step to the left.
- `[>] shift right`: shifts all the pitches one step to the right.
- `[+] shift up`: shifts all the rhythmic values one level up.
- `[-] shift down`: shifts all the rhythmic values one level down.
- `[b#] global accidental`: cycles through natural, flat and sharp accidentals, globally (it affects all the steps simultaneously).
- `[N] normalize`: resets all the pitches to '`C natural`.'
- `[R] randomize`: randomizes all the notes (white keys only).

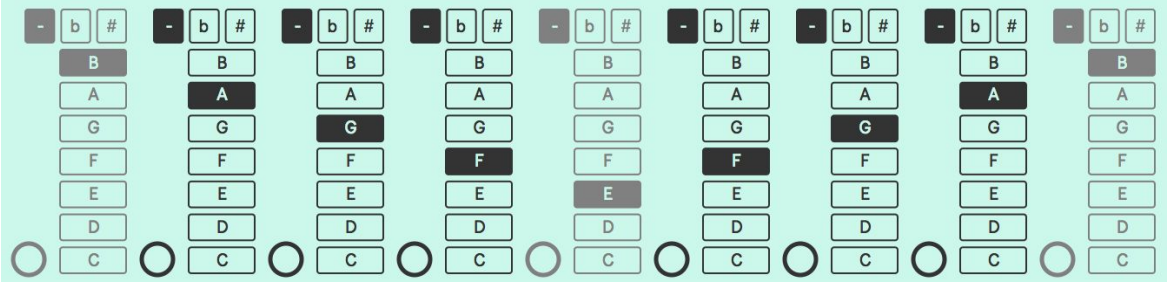
NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the pitch values one step to the right, the Octave or Rhythmic sequence will still play their first steps with the settings that were originally assigned to them respectively (the same will be true for the other elements).



The following variation shows the pitch sequence shifted to the right by one step:



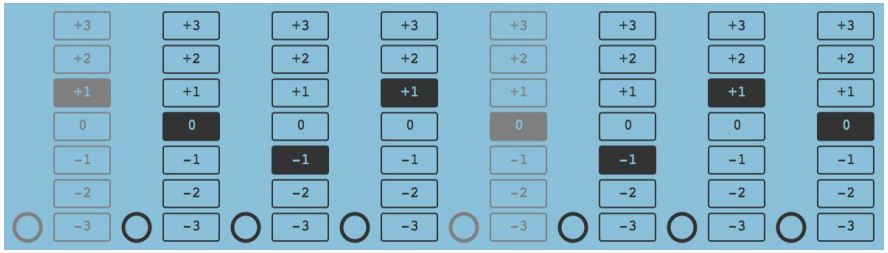
...and shifted one level up instead:



3. Octave

Octave – Main Sequencer Panel

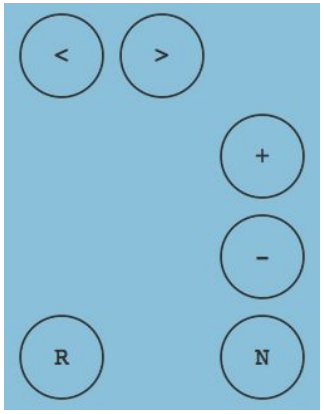
Each step has an `octave transposition` tab with a 6-octave range. When set to `'0,'` there's no transposition and the Pitch sequence sends out the 'middle' octave (notes C3 - B3).



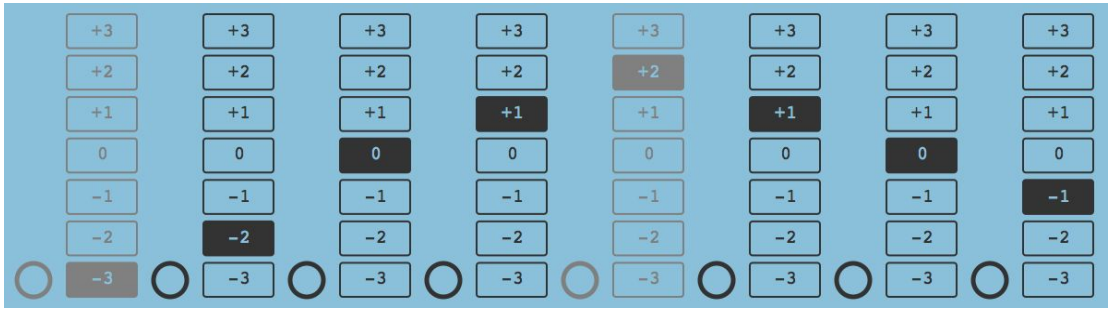
Octave – Macro Panel

These controls affect the entire sequence of octaves, as follows:

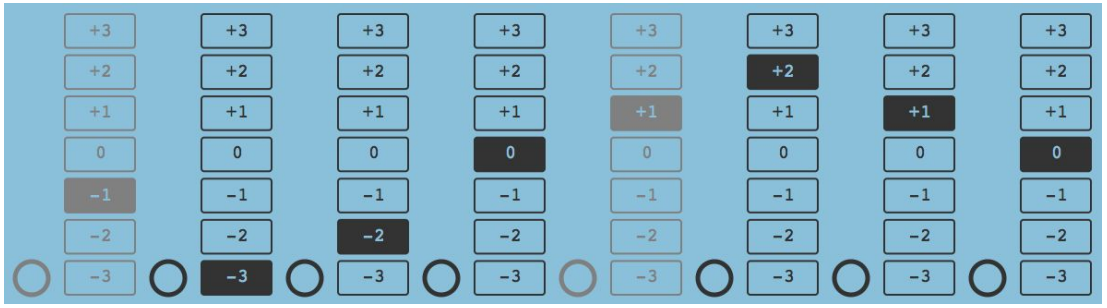
- `[<] shift left`: shifts the octave sequence one step to the left.
- `[>] shift right`: shifts the octave sequence one step to the right.
- `[+] shift up`: shifts the octave sequence one level up.
- `[-] shift down`: shifts the octave sequence one level down.
- `[N] normalize`: resets all the octave settings to '0'.
- `[R] randomize`: randomizes all the octaves.



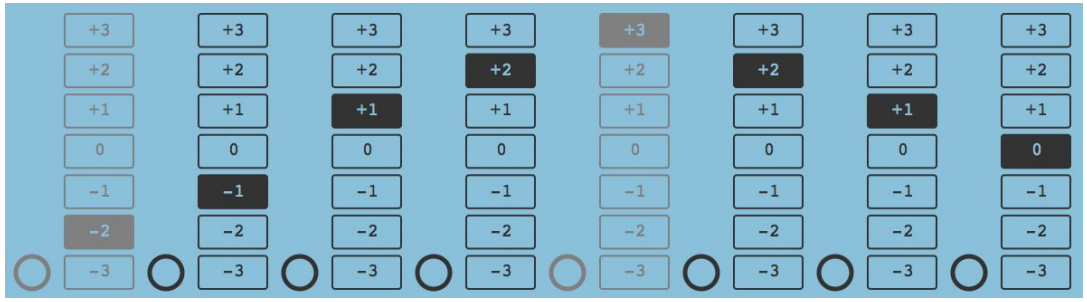
NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the octave values one step to the right, the Pitch or Rhythmic sequence will still play their first steps with the settings that were originally assigned to them respectively (the same will be true for the other elements).



The following variation shows the octave sequence shifted to the right by one step:

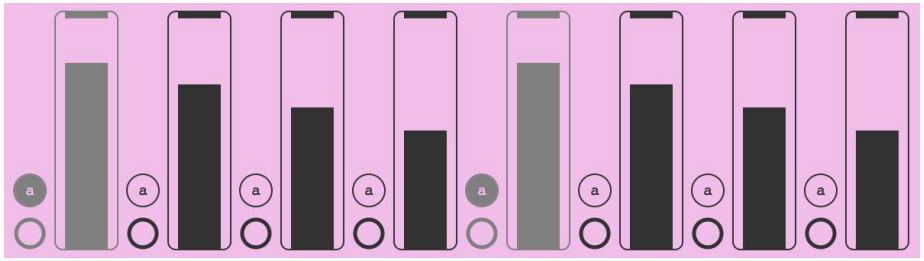


...and shifted one level up instead:



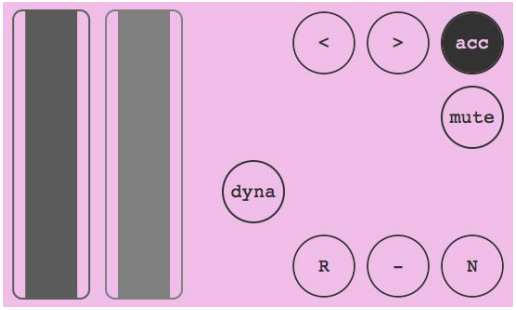
4. Velocity

Velocity – Main Sequencer Panel



The Velocity panel is made up of discrete `faders` to control the velocity of each note and `accent` buttons for each step. Turning an `accent` button ON will give that step a highlighted color (which will be propagated across all the other elements).
In the Velocity Macro Panel, there are global faders which will scale the accented notes vs. the non-accented ones independently.

Velocity – Macro Panel



These controls affect the entire sequence of velocity values, as follows:

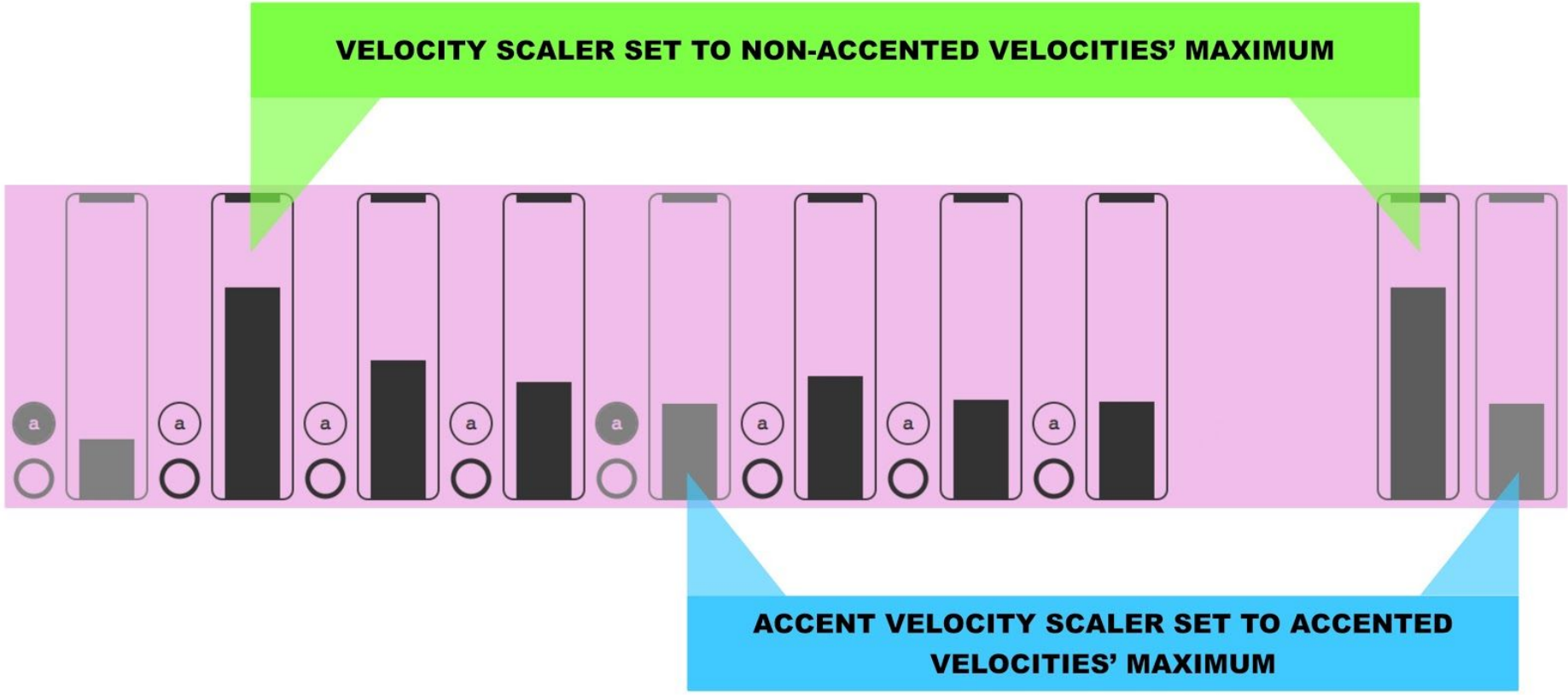
- `velocity scaler` (darker grey): scales all the non-accented notes together, proportionately and independently of the accented ones.
- `accent velocity scaler` (lighter grey, to the right): scales all the accented notes together, proportionately and independently of the non-accented notes.
- `[<] shift left`: shifts the velocity sequence one step to the left.
- `[>] shift right`: shifts the velocity sequence one step to the right.
- `[acc] global accent`: toggles all the accented steps ON/OFF.

NOTE: This button also has a secondary feature: it will reset the velocity scalers to their maximum level while keeping the individual velocitiy values where they are.

- `[mute] global mute`: toggles all the non-accented velocities ON/OFF.
- `[N] normalize`: resets all the velocities to an average gradation; it also turns steps 1 and 5 into accented notes and resets the scalers to their maximum value.

- `[-] reset scalers`: if all the faders are set to some value lower than the maximum value, clicking this button will reset both velocity scalers **down** to the current highest value among all the velocity faders. This will be helpful whenever you have low velocities across the board and would like to scale up. See graphic below for an example.

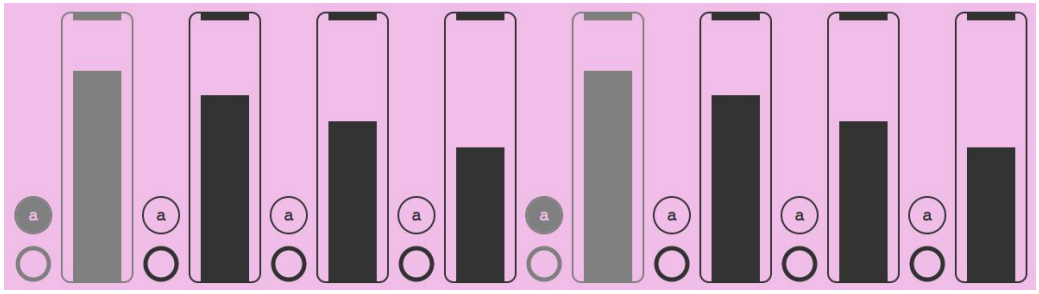
Notice the scalers on the right matching (resetting to) the highest velocity on steps 2 & 5 on the Main Sequencer Panel – that's what happens after you click on the reset scaler button [-]:



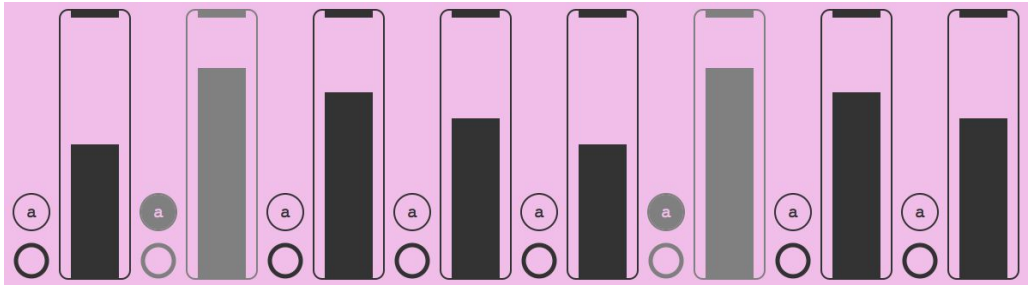
`[R] randomize`: randomizes all the **non-accented** velocities.

NOTE: If you wanted to randomize every single step, you could do this by 1) clicking the `global accent [acc]` button to turn it OFF — momentarily suspending all the accents — 2) clicking on `randomize [R]`, and 3) clicking again on `[acc]` to turn it back ON (to reactivate the accents); of course, you could also choose not to have any accents in the first place if you don't need them!

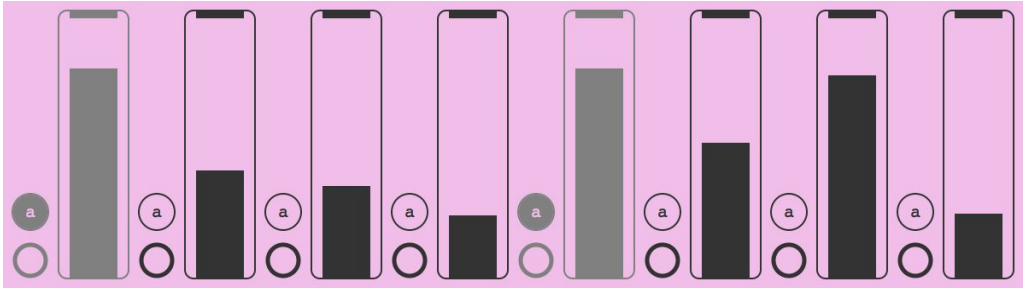
*NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the velocity values one step to the right, the Pitch or Octave sequence will still play their first steps with the settings that were originally assigned to them respectively (the same will be true for the other elements). **However**, when you shift the Velocity sequence left or right, **the accents will shift along with the velocity values**. Because the accents are propagated to all the other elements in Acanto, the highlighted steps will change accordingly – except that their respective values will remain the same. For example, if on the Pitch Panel you had set the first step to `'C'` and the 2nd step to `'G'` and then you went to the Velocity Panel and shifted the sequence one step to the right, assuming that the first step was accented: **after the shift, the 2nd step will be accented but will still play `'G.'`***



The following variation shows the velocity sequence shifted to the right by one step:

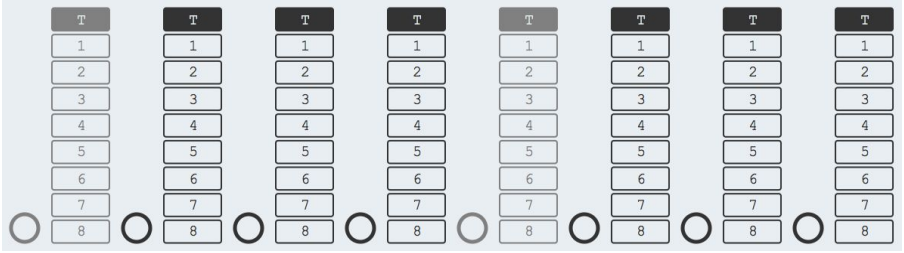


Here’s what would happen if you randomized it (only the non-accented steps are affected):



5. Bus

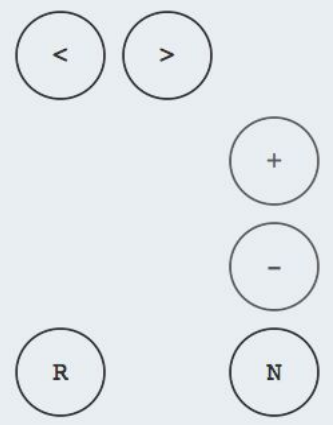
Bus – Main Sequencer Panel



In addition to having a direct output, Ancanto is able to route each step to one of 8 discrete busses. The `bus output` tab has 9 buttons:

- `[T] through:` sends the note to Acanto's direct output.
- `Busses 1-9:` These will route the note to another MIDI track, via one of the Acanto Bus devices.

Bus – Macro Panel



The Bus Macro Panel has two general functions: the **Global Bus Parameters** (similar to all the other sequencer elements) and **Loop Settings**, both of which will be explained below.

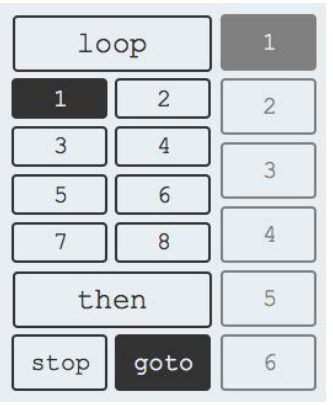
Global Bus Parameters

Let's look at the standard parameters first:

- `[<] shift left`: shifts the bus sequence one step to the left.
- `[>] shift right`: shifts the bus sequence one step to the right.
- `[+] shift up`: shifts the bus sequence one level up.
- `[-] shift down`: shifts the bus sequence one level down.
- `[N] normalize`: turns all the `busses` to `through`.
- `[R] randomize`: randomizes all the `bus` assignments.

NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the bus values one step to the right, the Pitch or Rhythmic sequence will still play their first steps with the settings that were originally assigned to them respectively (the same will be true for the other elements).

Loop Settings



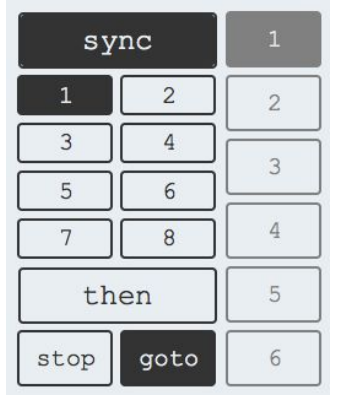
This section is somewhat analogous to Live clip's Follow Action Controls (though much more basic and without a 'chance' factor), allowing you to extend your patterns by chaining a number of presets together. For example, you can...

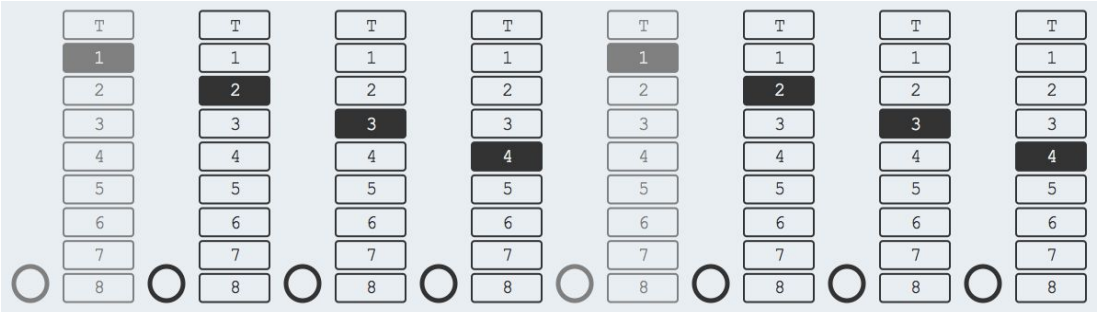
- Play your preset one time only and then `stop`
- Loop your preset for a specific number of times (`1 – 8`) and then `stop`
- Loop your preset for a specific number of times (`1 – 8`) and then `goto` another `preset`.
- Loop indefinitely by choosing to `goto` the same preset.

NOTE: The Loop Settings are also saved as part of your preset. For example, if you are on ***preset 1*** *and a)* `loop x 2`*, b) choose* `goto` *and c)* `goto preset 2`*, after storing this preset, pressing play on Acanto will loop through preset 1 two times and immediately go on to play preset 2. If preset 2's Loop Settings are set to* `'stop,'` *then Acanto will stop right after. If, on the other hand, you choose to* `goto preset 1`*, you will then have an endless loop with that particular phrasing:*
||: A A B :||.

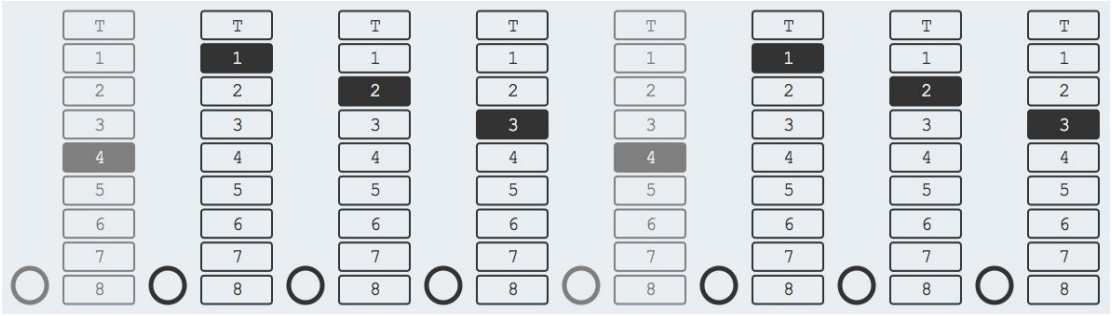
If you set your preset to loop to itself, copying your settings to another preset will automatically update the `goto` *assignment so that the new preset also loops to itself.*

The `loop` *button also acts as a* `sync` *button: if you ever find yourself say improvising and chaining various uneven loops together, pressing this button will resync the sequencer to the next downbeat in Live.*





The following variation shows the bus sequence shifted to the right by one step:



...and shifted one level up instead: