Silent Colors

ACANTO 1.1.0

A Rhythmically Independent & Polyphonic Sequencer

User's Guide

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system requirements & license info

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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 and to allow for the musical idea to be as independent as possible from the constraints 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?

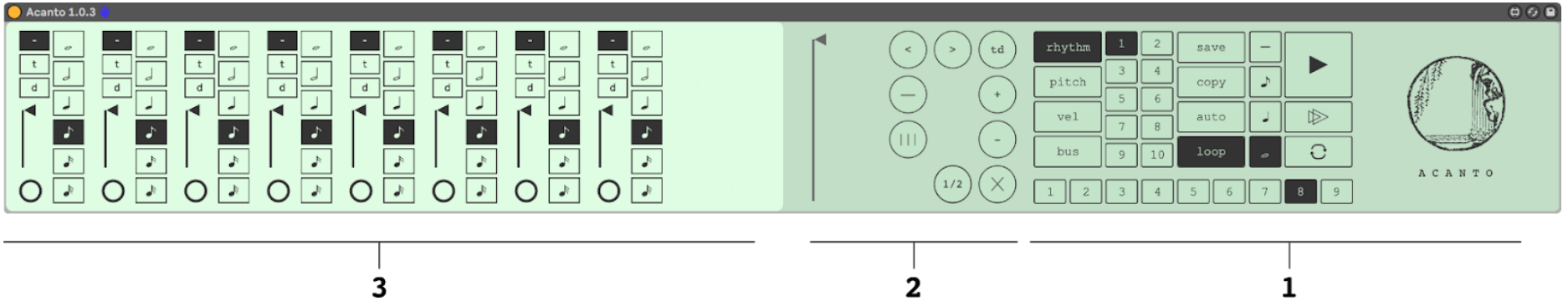
1. Acanto's transport is independent of Live's transport: you can start the sequencer freely if you choose so, or you can opt to follow quantization settings of 8th note, quarter note, or bar.
2. The number of steps in a particular sequence can vary (this is rather standard by now in most sequencers). 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 feeling and flexibility, since changing pitches — on the same step — in Acanto will still play the same timbre (but each step can vary in sound).

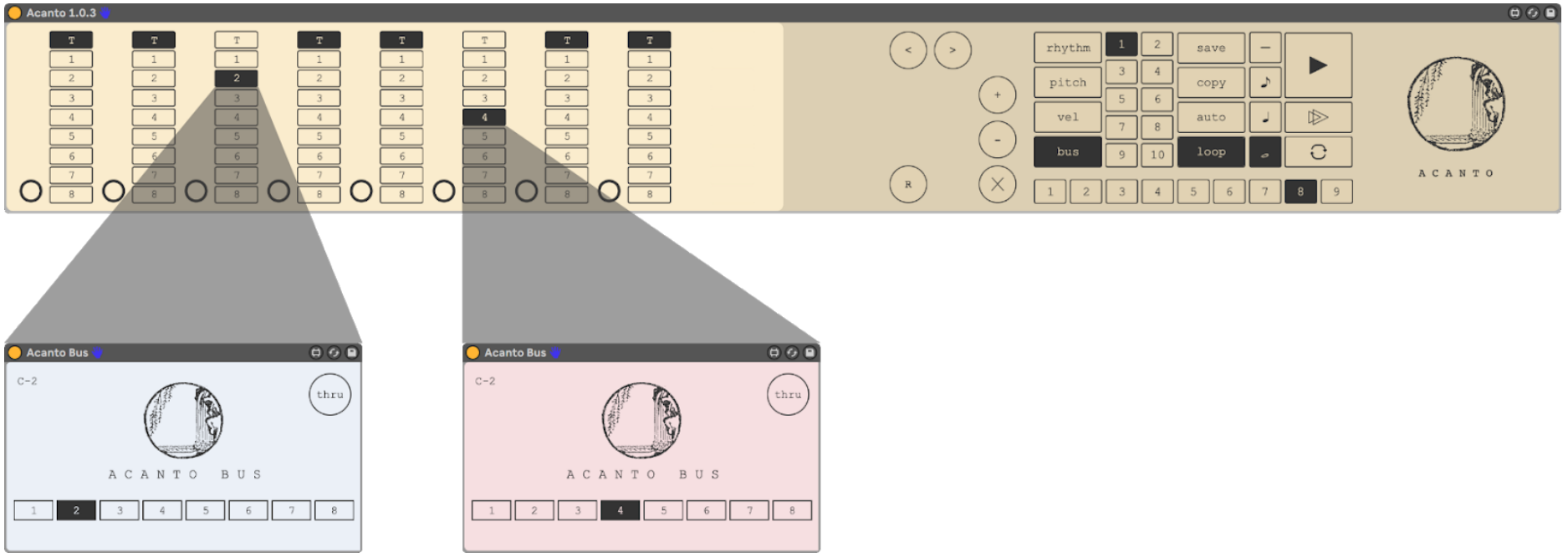
GETTING STARTED

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...

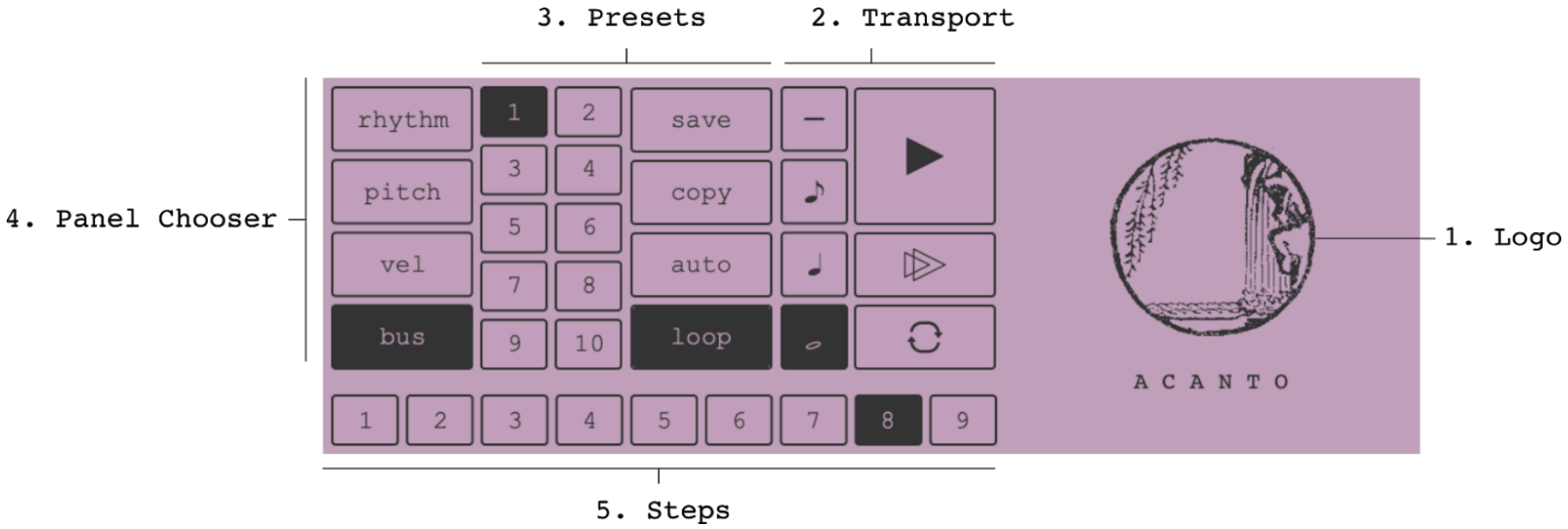


1. **Global Controls**, divided into various parts:
    a. Logo: clicking on it will change the background color randomly. This will be useful when you're running multiple instances of Acanto in the same set.
    b. Transport Controls
    c. Presets
    d. Panel Chooser
    e. Steps
2. **Macro Controls**: 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: you can shift the sequence left, right, up, down, clear, Randomize, etc
3. **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's also an *Acanto Bus* device: besides being able to route MIDI to its direct (through) output, Acanto can also route each step to another MIDI track, by instantiating an *Acanto Bus* device at the top of the new track's device chain…



GLOBAL CONTROLS



The Global Controls are divided into five sections (counter-clockwise):

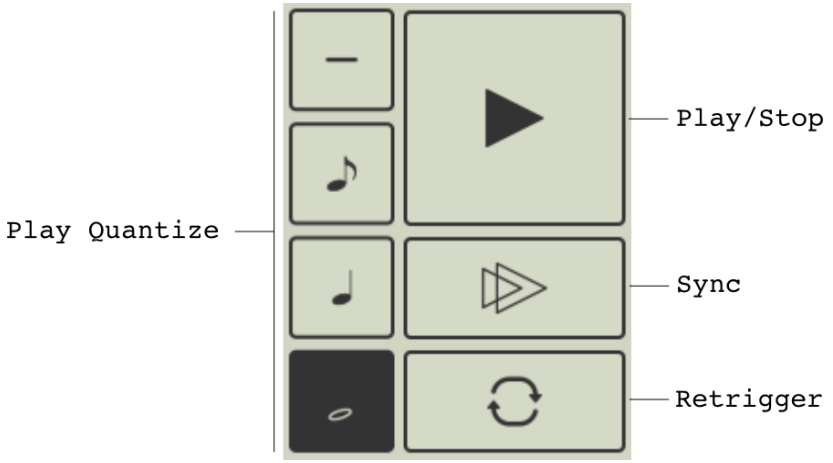
1. The Acanto Logo
2. Transport Controls
3. Presets
4. Panel Chooser
5. Steps (sequence length)

Acanto Logo

The Acanto Logo also acts like a button and changes the background color of the whole device, randomly. This will be useful when working with multiple instances of Acanto in the same Live set.

Transport Controls

There are four buttons in this section:

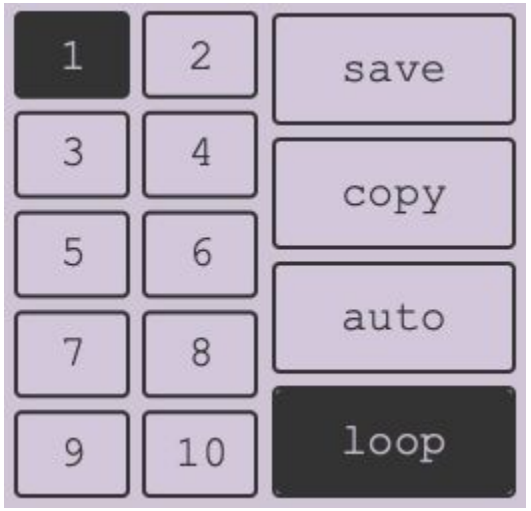


1. The **Play/Stop** button: It starts or stops the sequencer. It's automatically mapped to a couple of MIDI notes, each having a different functionality…
    - C#3 – works like a regular button: press it once and it starts the sequence, press it again and it stops.
    - D#3 – works like a musical note: the sequencer will start with a NOTE ON and stop with a NOTE OFF.

    This button is also available as part of Live's automation.
2. When the **Sync** button is active, Acanto will be slaved to Live's transport. Pressing either play button (Live's or Acanto's) will just activate Live's transport. Acanto will automatically be in sync with your Live set, starting on the downbeat.
3. The **Retrigger** button will restart your sequence. This makes sense when you have some kind of complex rhythm that doesn't necessarily line up with the downbeat all the time. In case you want to restart your pattern, you have the option to do so based on the **Play Quantize** settings (on the left, read below). The **Retrigger** button is mapped to MIDI note F#3 and is also available as part of Live's automation.
4. The **Play Quantize** tab: You can choose to start your sequence freely (on your own time), or quantized to the eighth note, quarter note, or bar. These settings work in various, rather subtle ways:
    - Of course, when you press **Play** for the first time.

- When you press the **Retrigger** button.
- If **Follow Loop** mode is OFF, calling a preset will also follow these quantization settings (otherwise, if **Follow Loop** is ON, calling another preset will only take effect once the current sequence is complete).

The Preset Tab



Acanto features an internal preset mechanism. You can store and recall up to 10 presets with each instance of Acanto. All your presets will be saved with your Live set. In addition, presets can be recalled via MIDI using the white keys C3 - E4 and via Live's automation.

To the right of the /presets/ panel there are four buttons...

1. The **Save** button: pressing on it will store the most recent settings on the current preset.
2. The **Copy** button: press it once and it will turn red. Click on some other preset and your settings will be copied over to the chosen preset.
3. The **Auto Save** button: when active, all your settings will be automatically stored before you call some other preset. This is useful if for example you're looping between two patterns and are figuring out what the best settings are between them, etc. You probably want to turn this off if you're working with automation.
4. The **Follow Loop** button: when this button is active, calling a new preset will take effect only when the current sequence is complete (however long it is). When it's off, calling a new preset will take effect depending on your **Play Quantize** settings:
    a. Free: when this option is selected, the new preset will be called right after the last note being played.
    b. Eighth note: the new preset will be called on any beat or upbeat subdivision.
    c. Quarter note: the new preset will be called on any beat division.
    d. Bar: the new preset will be called on the downbeat.

The Panel Chooser

A sequence in Acanto is made up of four elements:

1. Rhythm: you can define the rhythmic values for each step.
2. Pitch & Octaves: you can define the pitch values & octave transpositions for each step.
3. Velocity: here you can define the velocities for each step.
4. Bus: here you can define where you'd like to route each step.

Steps

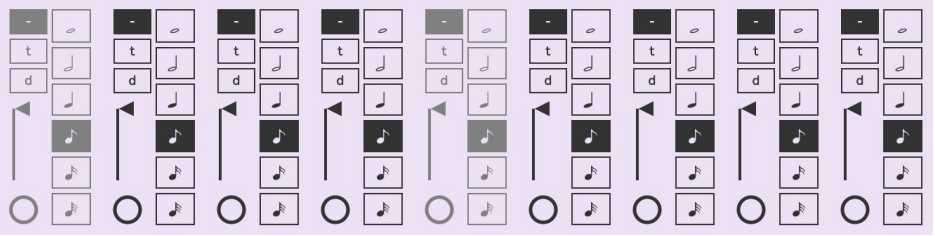
They define your sequence length in number of steps (in a range of 1 - 9).

THE MAIN SEQUENCER PANELS AND THEIR MACRO CONTROLS

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

1. Rhythm

Rhythm – Main Sequencer Panel



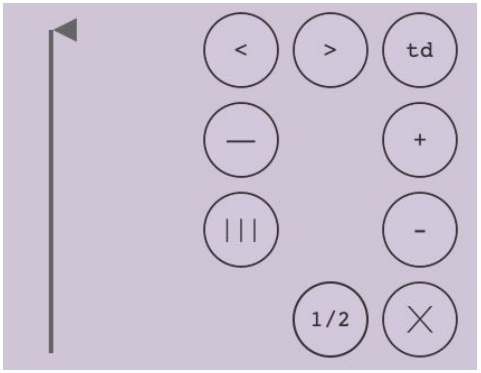
NOTE: Acanto can have up to 9 steps, however, only the number of steps that are actually active will be in view.

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 fader adjacent to it: it 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.

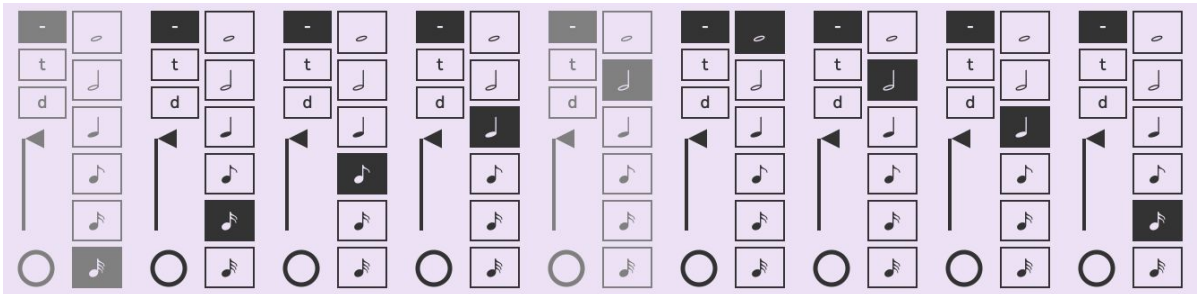
Rhythm – Macro Panel



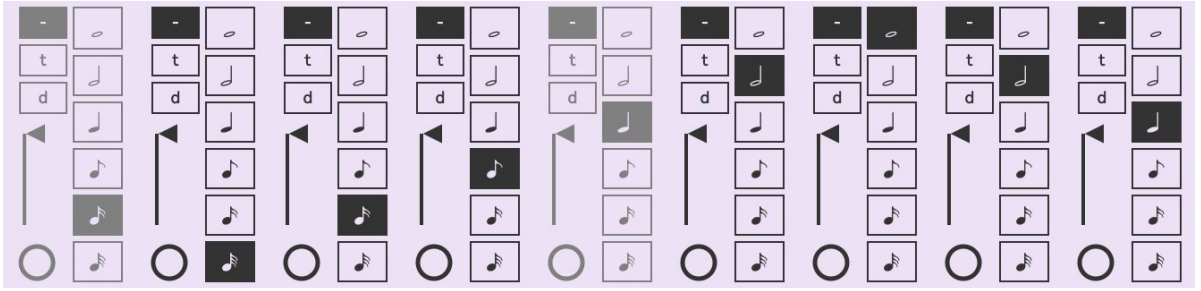
These controls affect the entire sequence of rhythmic values, as follows:

- **Duration Scaler**: scales the duration of the note itself, proportionately to its rhythmic value.
- `[<]` **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).
- `[X]` **Clear**: resets the rhythmic value of all the steps to 8th notes, in straight rhythm.
- `[1/2]` **Half:** cuts the rhythmic values in half, effectively doubling the tempo.
- `[|||]` **Maximize**: will normalize all the duration faders to their maximum rhythmic value.
- `[---]` **Reset Scaler**: will reset the fader back to its maximum value while leaving the individual duration faders where they are.

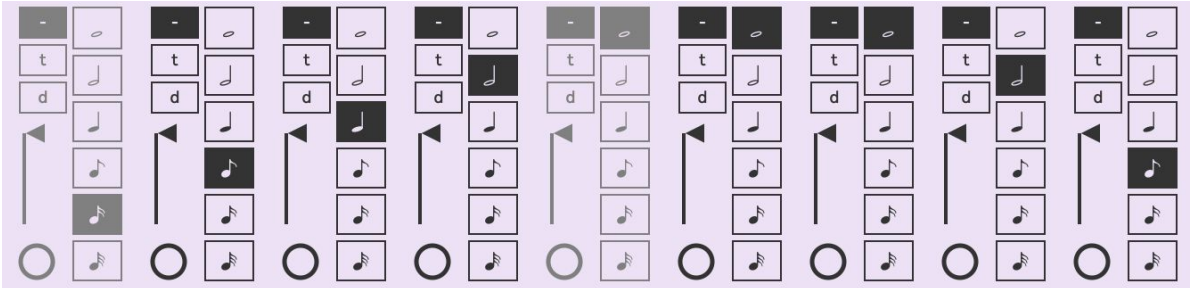
NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the rhythmic values one step to the right, the pitch sequence will still play the first step with the pitch that was originally assigned to it (the same will be true for the remaining elements).



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

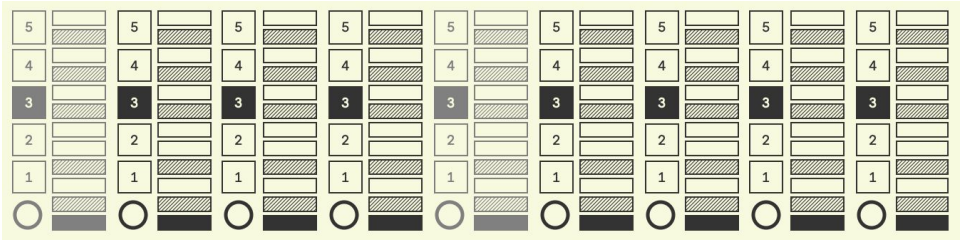


...and shifted one level up instead:



2. Pitch & Octaves

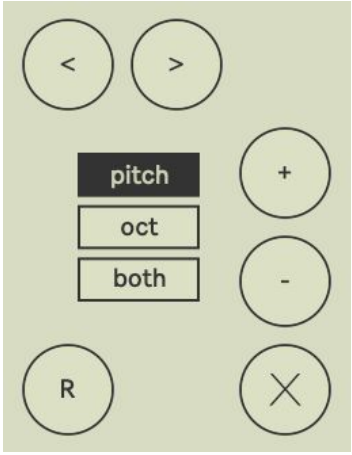
Pitch & Octaves – Main Sequencer Panel



There are two tabs for each step:

- The right tab is a kind of vertical mini keyboard representing one octave, where you can assign any note from C - B.
- The left tab lets you transpose your pitch in a range of 5 octaves (where 3 is the “middle C” octave).

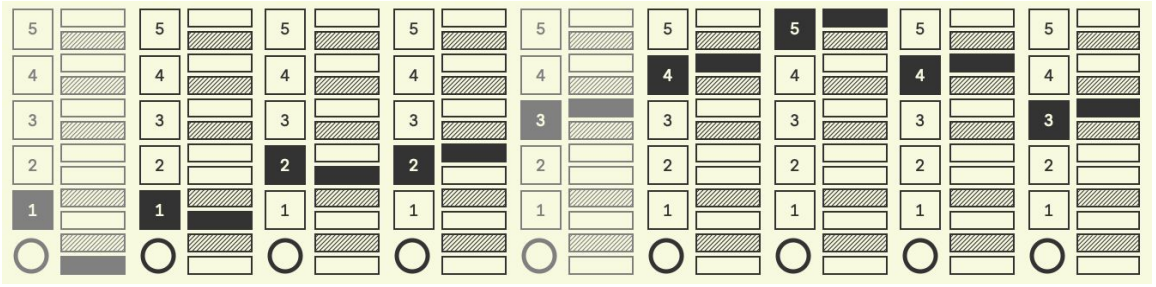
Pitch & Octaves – Macro Panel



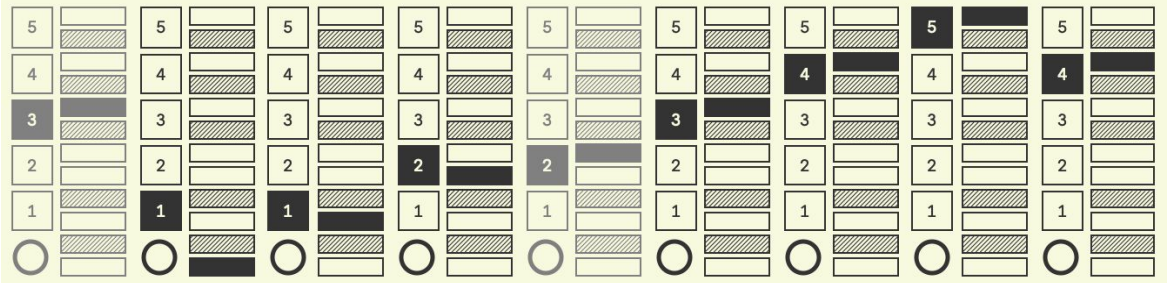
These controls affect the entire sequence of pitch values, as follows:

- **Pitch & Octave Selector:** you can choose to have the macro controls affect a) just the pitches, b) just the octave transpositions, or c) both at once.
- `[<]` **Shift Left:** shifts all the pitches and/or octaves one step to the left.
- `[>]` **Shift Right:** shifts all the pitches and/or octaves one step to the right.
- `[+]` **Shift Up:** shifts all the pitches and/or octaves one level up.
- `[-]` **Shift Down:** shifts all the pitches and/or octaves one level down.
- `[X]` **Clear:** resets all the pitches to C and all the octaves to 3.
- `[R]` **Randomize:** Randomizes all the pitches and/or octaves.

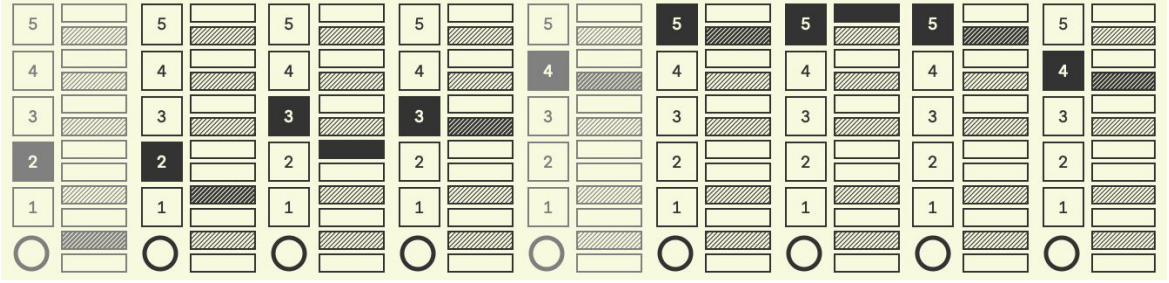
NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the pitch values one step to the right, the Rhythmic sequence will still play their first steps with the settings that were originally assigned to them respectively (the same will be true for the other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



The following variation shows the sequence (of **both** pitches and octaves) shifted to the right by one step:

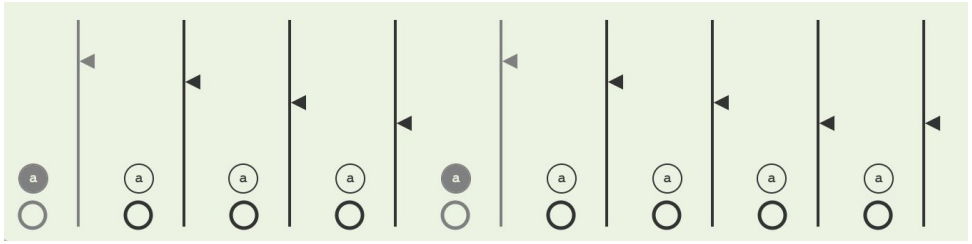


...and shifted one level up instead:



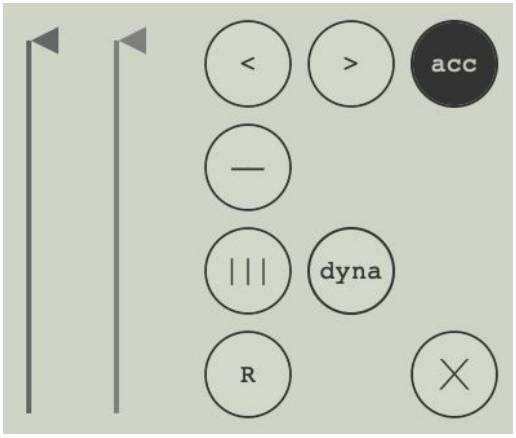
3. Velocity

Velocity – Main Sequencer Panel



The Velocity panel is made up of discrete `faders` to control the velocity of each note, plus **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:

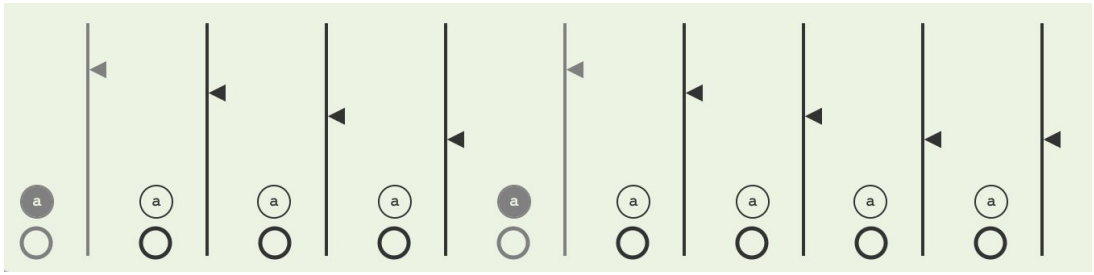
- The **Velocity Scaler** (darker grey): scales all the non-accented notes together, proportionately and independently of the accented ones.
- The **Accent Velocity Scaler** (lighter grey, to the right): scales all the accented notes together, proportionately and independently of the non-accented notes.
- `[<]` **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:** enables or disables the accents.
- `[X]` **Clear:** resets all the velocities to an average gradation; it also resets the scalers to their maximum value.
- `[R]` **Randomize:** This button will randomize all your *non-accented* velocities.

*NOTE: Make sure the **Global Accent** button is active and then either enable or disable accents depending on which velocities you would like to randomize (accented velocities will not be affected).*

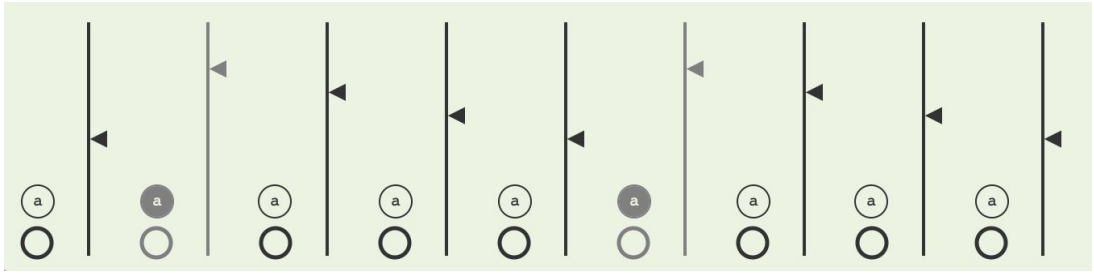
- `[||||]` **Maximize**: will scale all the velocities up, proportionately.

- `[---]` **Reset Scalers**: will reset both **Velocity Scalers** back to their maximum value while leaving the individual velocities where they are.
- `[dyna]` **Dynamic MIDI Mapping:** when active, the /velocity scalers/ will be mapped to incoming MIDI. This applies to both types of MIDI control: starting or stopping your sequence (C#3 or D#3), or calling presets (white keys C3 - E4).

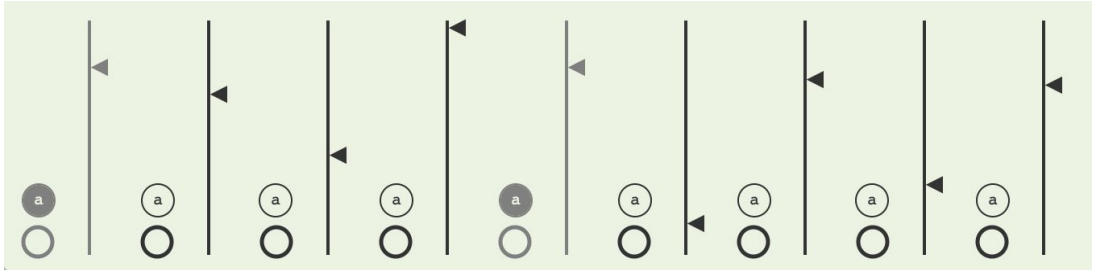
NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the velocity values one step to the right, the Pitch or Octave sequence will still play their first steps with the settings that were originally assigned to them respectively (the same will be true for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

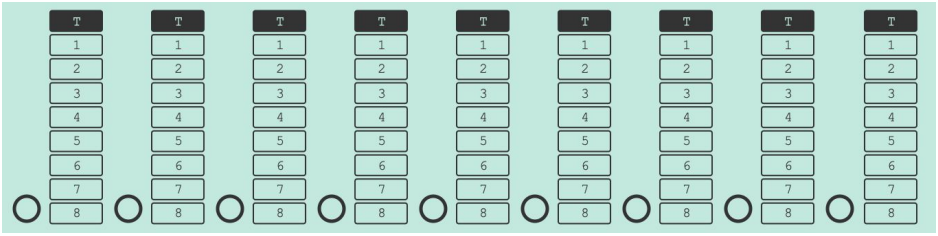


Here’s what would happen if you Randomized it (only the non-accented steps are affected):



4. Bus

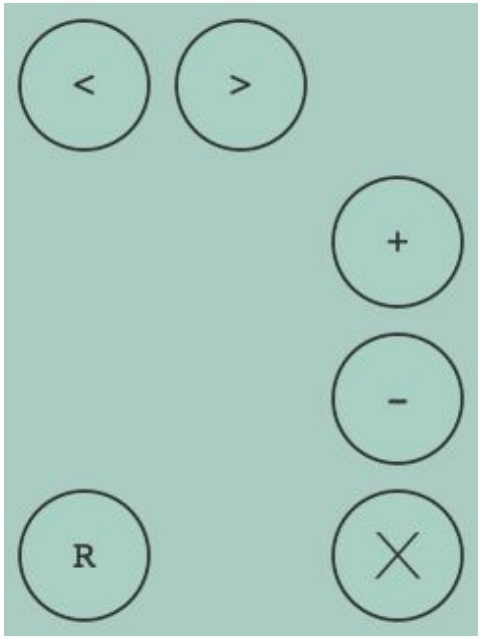
Bus – Main Sequencer Panel



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:

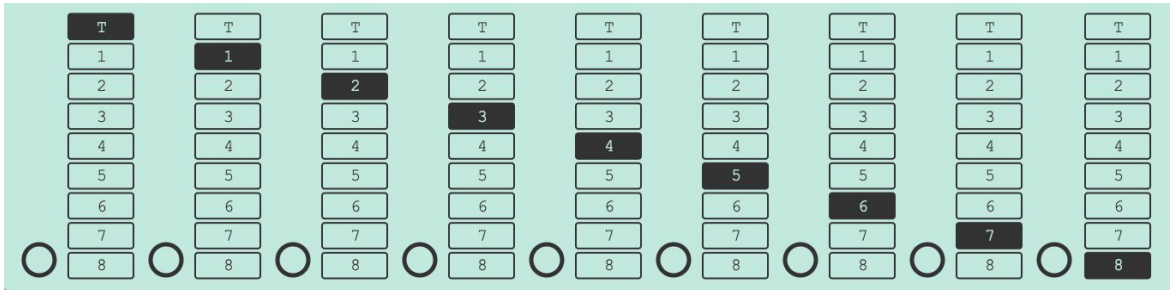
- `[T]` **Through:** sends the note to Acanto's direct output.
- **Busses 1-9:** these will route the note to another MIDI track, via the *Acanto Bus* device.

Bus – Macro Panel

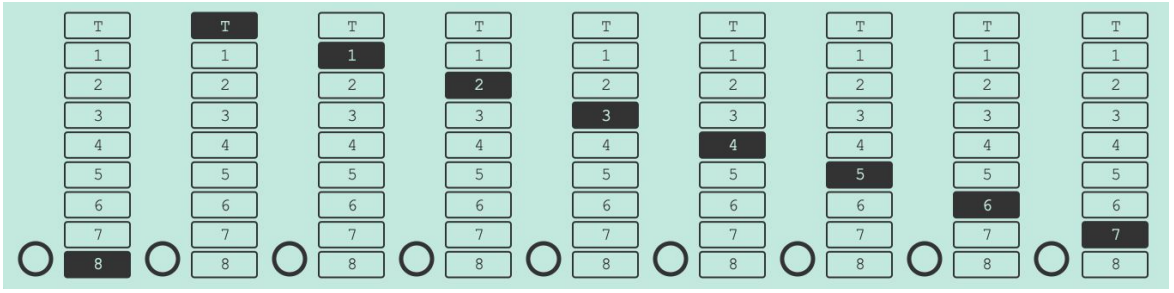


- `[<]` **Shift Left:** shifts the bus sequence one step to the left.
- `[>]` **Shift Right:** shifts the bus sequence one step to the right.
- `[+]` **Shift Up:** shifts the bus sequence one level up.
- `[-]` **Shift Down:** shifts the bus sequence one level down.
- `[X]` **Clear:** turns all the busses to **through .**
- `[R]` **Randomize:** Randomizes all the bus assignments.

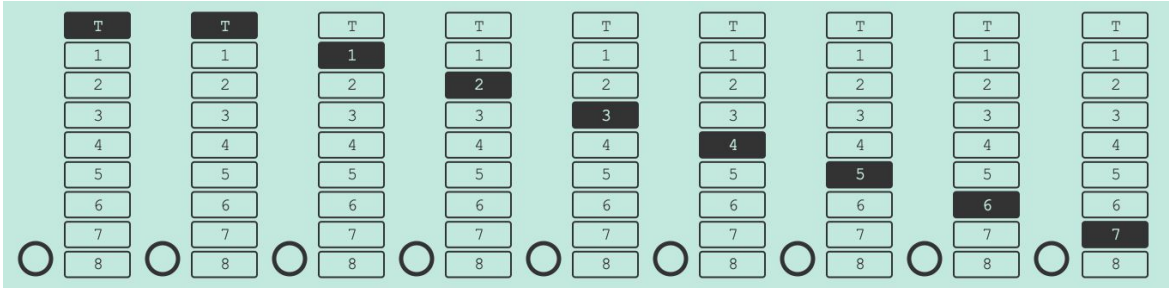
NOTE: The shifting of a sequence happens independently for each element. For example, if you shift the bus values one step to the right, the Pitch or Rhythmic sequence will still play their first steps with the settings that were originally assigned to them respectively (the same will be true for the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



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



...and shifted one level up instead:



AUTOMATION AND MIDI MAPPING

The following parameters are available as part of Live's automation...

Global Controls

Panels (Panel Chooser)
Presets
Follow Loop
Steps
Transport

Rhythm

Rhythm 1
Rhythm 2
Rhythm 3
Rhythm 4
Rhythm 5
Rhythm 6
Rhythm 7
Rhythm 8
Rhythm 9
Rhythm Var 1
Rhythm Var 2
Rhythm Var 3
Rhythm Var 4
Rhythm Var 5
Rhythm Var 6
Rhythm Var 7
Rhythm Var 8
Rhythm Var 9

Dur 1
Dur 2
Dur 3
Dur 4
Dur 5
Dur 6
Dur 7
Dur 8
Dur 9

Dur Scaler

Pitch & Octaves

Pitch 1
Pitch 2
Pitch 3
Pitch 4
Pitch 5
Pitch 6
Pitch 7
Pitch 8
Pitch 9
Octave 1
Octave 2
Octave 3
Octave 4
Octave 5
Octave 6
Octave 7
Octave 8
Octave 9

Acanto Bus Device

Bus Source

Velocity

Velocity 1
Velocity 2
Velocity 3
Velocity 4
Velocity 5
Velocity 6
Velocity 7
Velocity 8
Velocity 9

Velocity Scaler
Accent Velocity Scaler
Global Accent

Bus

Bus 1
Bus 2
Bus 3
Bus 4
Bus 5
Bus 6
Bus 7
Bus 8
Bus 9

The following parameters are also directly mapped incoming MIDI notes...

Presets	
Preset 1	C3
Preset 2	D3
Preset 3	E3
Preset 4	F3
Preset 5	G3
Preset 6	A3
Preset 7	B3
Preset 8	C4
Preset 9	D4
Preset 10	E4

Transport Controls	
Play/Stop (“button” mode)	C#3
Play/Stop (“toggle” mode)	D#3
Retrigger	F#3