PINK NOISE STUDIO

MAIA

DUAL SYNTHESIZER

OPERATION MANUAL

version 2.3.1

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1. Introduction

Welcome!

Thank you for choosing the **Maia Dual Synthesizer** and we hope that you will love it just as much as we do. This instrument is the result of many years of work.
Maia is a dual synthesizer based on the wide range of sounds from various acoustic instruments and synthesizers. But samples are just the building blocks, the magic lies in the structure and the special features that make this instrument unique.
As you will find out in a few minutes, Maia has a wealth of creative features that may remain hidden without this manual, so please take the time to read... it's worth it!

Maia webpage: https://www.reasonbanks.com/re_maia.html

What's new?

Version 2.0
- Completely redesigned Step Sequencer with advanced options:
    - Independent rates
    - Customisable random generator
    - Editing tools
- FX modulation matrix with LFOs
- Redesigned Modulation Matrix
- Microtuning options

Version 2.1
- Unison

Version 2.2
- Discrete glissando
- CV3 and CV4 input added

Version 2.3
- 62 new oscillators (now 150 in total)
- Updated and enlarged Factory Bank
- Release Trigger option for Synth B
- Comment fields
- tiny bugfixes and lots of small improvements

Main features

- Dual synth architecture with a wide range of sounds

- Step Sequencer with advanced options

- Oscillator tables for polytimbral wave sequencing, with random generator and editing tools

- FX modulation matrix with LFOs

- Modulation Matrix

- Discrete glissando - a new and unique method of musical performance

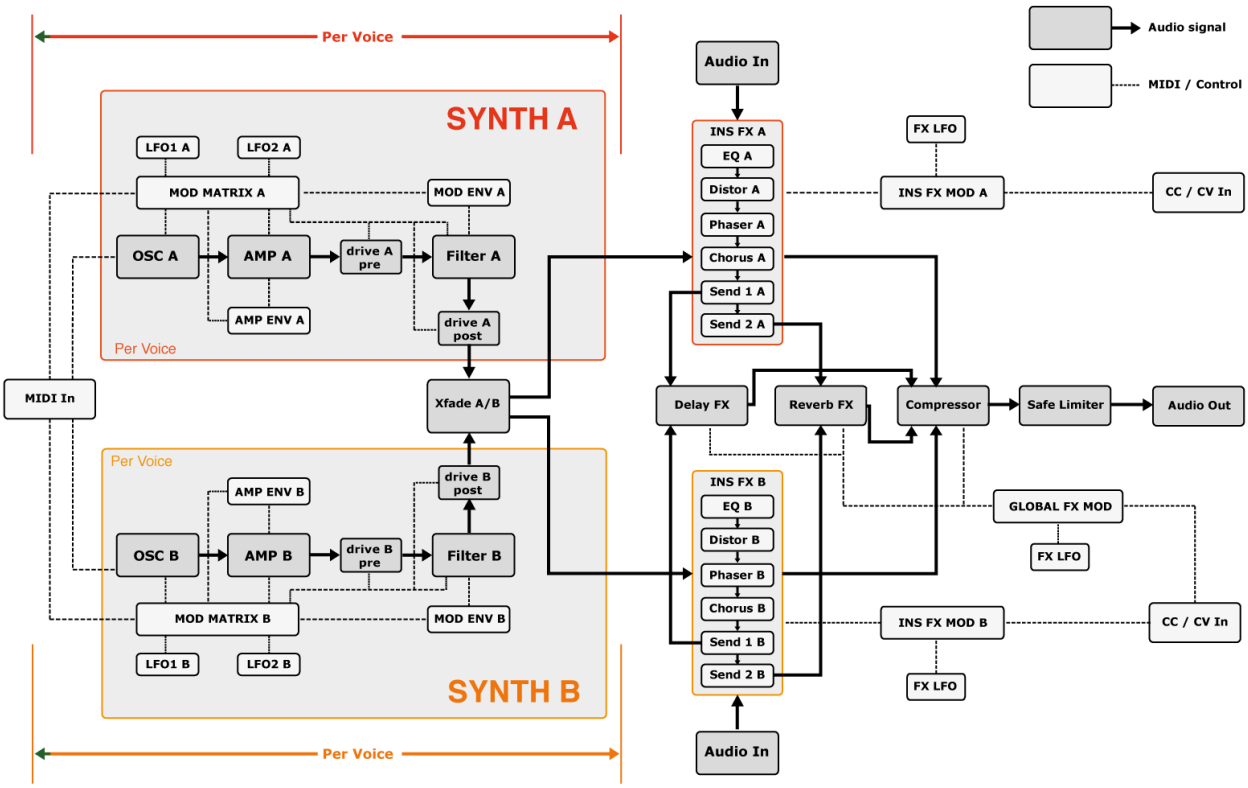
- Microtuning

- Audio in: to use Maia as a dual FX processor

- CV/Gate out: to control other devices using Discrete Glissando and/or the Step Sequencer

2. Structure

Well, let's get to know the structure of the synth: this is the first step to understanding Maia .



OSC: the name “Oscillators” are borrowed from the analogue synth's terminology: these are the building blocks of the instrument. In fact, they're multisampled sound layers, sorted by sound types:
Simple OSC (simple waveforms), Bass & Lead, Chroma, Gtr & Key, Pad & Str and FX & Perc. Please note, these types are not set in stone, they're just a guide for getting started.

AMP: Each OSC has an amplifier with a dedicated AMP envelope. Please note that the AMP envelope can also be used as a destination in the Mod Matrix.

DRIVE: waveshaper filter. The drive module can be either before (pre) or after (post) the multimode filter.

FILTER: each synth engine contains a multimode filter with 6 different modes: highpass, bandpass or four different slopes of lowpass. The filter cutoff is controlled by MOD ENV by default, but MOD ENV can control other parameters via the modulation matrix as well.

LFO: each synth engine has two low frequency oscillators to use as modulator source in the Modulation Bus. The LFOs have two modes: the frequency rates can be set in Hz (cycles per seconds) or in beats (quarternotes per cycle).
There are 8 waveforms available: Sine, Triangle, Square, Saw, Random (random steps), Drift (smooth random), Saw Up and Saw Exp (exponential decay).

MOD MATRIX: makes connection between various modulation sources and destination parameters. Each synth engine has 6 modulation slots.

Balance A/B : balances the volume of synth A and Synth B using an equal power crossfade algorithm. It looks like a mixer, but it handles the two signals separately, by setting their ratio, providing a smooth morph between synth A and Synth B.

Insert FX: both synth engines have a dedicated insert FX chain: EQ, Distortion, Phaser, Chorus and two sends for the global Delay and Reverb effects.

Global FX: as you can see, after the insert FX chain the outputs of the two engines are mixed in the Compressor, and then go further to the Safe Limiter.

FX MOD Matrix: has three groups: one for Insert FX A, one for Insert FX B, and one for the Global effects. Each of them has 5 modulation slots.

Audio Out: this is the main stereo output of the Synth, located on the back panel.

3. Front Panel overview

The front panel contains the following sections:

1. **Patch controls** (for browsing, loading and saving device patches).
2. **Main synth programmer section** (controls for the currently selected synth engine). It has three views: Synth parameters, Oscillator Table and FX modulation view.
3. **Performance section**, provides global performance and play controls.
4. **Global effects section**.

Comment fields

There are two comment fields, you can write your personal notes here, they will be saved with the patch and the song - can be really useful sometimes.

4. Using Maia

4.1 Patch Controls

The patch operation is the same as in any other Reason device. To select a patch, either click on the patch name, the folder icon or the arrow buttons. To save a patch, click on the disk icon.
If you [Alt]-click on the disk icon, the patch will be overwritten without question.

4.2 Controlling parameters

Knobs, faders, and numerical displays are controlled by left-clicking on them, then dragging the mouse up or down in a vertical direction. Hold down Shift while turning the knobs to slow down movement, in order to set precise values. Use [Ctrl]-click to set the controllers to the default position.
Note: some items have special features that can be accessed via modifier keys (ctrl, alt, shift). These features can effectively speed up editing and are described in the appropriate section.

4.3 Global performance and play controls

PITCH
The Pitch bend wheel can be used for bending note pitches up and down. Maia offers 3 modes: the traditional continuous glissando pitch bend in 0-12 semitones steps, discrete legato mode and discrete retrigger mode. You can set the desired pitch bend range and/or mode with the “PB” range control. The default setting is 2 semitones (continuous glissando).

PB SET
The PB SET button opens the PITCH BEND GLISSANDO setup panel, which offers various detailed options, like scales, velocity handling of the retriggered voices, etc.
See the Pitch Bend Glissando Setup section for more details.

MOD

The Mod wheel can be used as a modulation source in the Modulation Bus. The synth also responds to MIDI CC#1 data from a connected MIDI master keyboard.

AT

The Channel Aftertouch can be used as a modulation source in the Modulation Bus. The synth also responds to Channel Aftertouch data from a connected MIDI device, and displays the current value.

BR

Breath Control can be used as a modulation source. Maia responds to the Breath controller data (CC#2) from the connected MIDI device and displays the current value.

EX

Expression control is another option to control the synth via Modulation Bus. The synthesizer responds to the Expression controller data (CC#11), and displays the current value.

OSC TABLE

The Osc table switch can enable or disable the two Oscillator Tables. When enabled, the tables may override the settings of the Synth Programmer's OSC selectors (at the top of the synth).

RESTART

If the Osc Table is in step mode, this button restarts the counters of the OSC tables, so the next note will play from position 1.
It can be helpful if you play a melody on the keyboard and don't want to go through the whole table.
It only works when OSC tables are in step mode.

SEQ

If you enable this button, the Restart button will also restart the step sequencer.

GLIDE

Glide (or portamento) allows the synth to regularly slide in pitch with each new note.

Glide modes:

off (no glide)
on (always glide)
auto (only glide if a key is already held).

Glide time: specifies in how much time the sound slides to the next key.

KEY SPLIT
This function allows you to split the keyboard in two sections, each playing separate sounds.
The Key Split has 3 parameters:

Split Keyboard button led: when it is activated, it splits the keyboard in two sections, each playing separate sounds.

Split point: you can set the split point (the key where the keyboard should be split) by clicking on the number and dragging the mouse up or down vertically. The default value is the C3 key.

Split order: The A-B setting is the default, in this case Synth A will be played from the lower (left) part of the keyboard, while Synth B will be played from the upper (right) part.
You can set the split order (A-B or B-A) by clicking on the "A-B" text.

4.4 Pitch Bend Glissando Setup

In music, glissando is a glide from one pitch to another. The traditional pitch bend was developed to create continuous glissando in a specific range. Although it's suitable for many instruments, like guitar, fretless stringed instruments or many synthesizer sounds, some instruments can't bend the pitch in this way (eg. piano, organs, saxophone).
Maia has a very unique feature that you've probably never seen on any other instrument (as I write this manual in April 2021): you can create discrete glissando using the pitch bend.
It's a new performance mode, you can use it for a melodic run, as a guitar strummer or even as a harmonizer for chords.

To open the setup panel, click on the **PB SET** knob (located in the lower left corner). As you can see, it's highly customisable, and offers many options.

When you open the panel and the Pitch bend is in continuous mode, all options are grey. This is normal, since these options can only be interpreted in discrete mode. Click on one of the discrete modes: this can be legato or retrigger mode.

Discrete Legato mode

This mode is very similar to the continuous mode, except the pitch doesn't bend, it changes in discrete steps. Legato mode can be useful for sustained solo or bass sounds.
As you can see, in this mode only the SCALE and the STEPS can be changed (in the range of +/- 12 semitones and 1-7 steps).

Discrete Retrigger mode

If you turn the pitch bend in retrigger mode, it generates new notes according to the specified scale. Retrigger mode reveals all options, let's see them in more detail.

VELOCITY CONTROL
We have to specify the velocity values of the triggered notes somehow (since they don't get triggered by the keyboard in the usual way): the default mode is to scale them via the original note's velocity. This box allows you to choose other ways to change them while triggering. The selected controller's value will specify the new velocity values (scaled by the Gliss. steps velocity values).

SCALE
You can choose a preset or you can select custom if you want to create your own scale in +/- 2 octaves range.

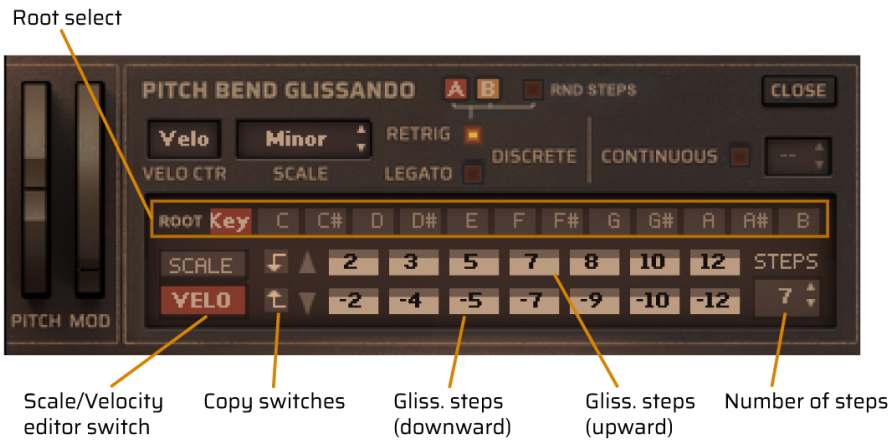
Enable A / B synth
You can specify which synth engine responds to the pitch bend in retrigger mode.

RND STEPS
If you activate this button, the glissando steps will be played in random order. It can be useful for strummed notes, they will sound differently on each "strum".

ROOT

The root select bar is only active in retrigger mode. The default mode is “Key”: in this case the scale's root note is the note you played – similar to Legato mode. Tip: Key mode can be useful if you want to create a guitar strummer and specify chords as custom scale (see the “Tutorial - EXT Instruments 1 key Strummer.cmb” patch in the factory bank).

If you select a root (eg. “A”), this root and the scale (eg. minor) will determine the possible notes and forces the pitch bend to trigger only this scale's notes, so each generated note will stay in A minor.



SCALE / VELO switch

You can select which values you want to edit on the Glissando steps buttons: the custom scale or the velocity values of the steps. Please note that the SCALE switch is only active if you have previously chosen the custom scale, since the presets can't be changed.

Copy switches

If the VELO switch is active, these small switches copy the velocity values between the upper and lower step buttons. If you edit a custom scale and the SCALE switch is active, they will be only visible if the scale is valid. What does this mean? A scale is valid, if the values of the steps change in one direction, starting from the root note. In this case these switches can calculate the other direction's notes properly. Special keys: alt-click will mirror the values, shift-click duplicates them to the other direction's steps.

Glissando steps

There are two rows for the steps, the upper row is for the upward values, and the lower row is for the downward values. If the SCALE switch is active, you can adjust these values by click-holding and moving the mouse up/down. Ctrl-click set it to 0. Shift- or alt-click adds or subtracts one octave, depending on its current value. If the VELO switch is active, you can adjust each step's velocity in 12 steps. The default setting (ctrl-click on it) is 8, it results neutral value (same as incoming velocity). You can expand the played velocity up in 4 steps or scale down in 7 steps.

STEPS

You can specify the number of steps between 1-7 (up to heptatonic scale). The only exception is the Diminished preset, which is octatonic. The default settings (ctrl-click) depend on the current scale.

4.5 LINK options

On the Filter, Amp Env, Mod Env and Send FX panels you can see a special **LINK** button.

It links the engine of synth B to synth A on the appropriate panel, and when enabled, all parameters of A and B will be changed together.
Please note that when LINK is enabled, the appropriate controllers of synth A will take control over synth B, and you will only see the parameters of synth A (even if you switch to panel B).

Any changes to synth B (eg. when you automate it) are recorded in the background, so when you turn LINK off, the actual settings of synth B will be restored.

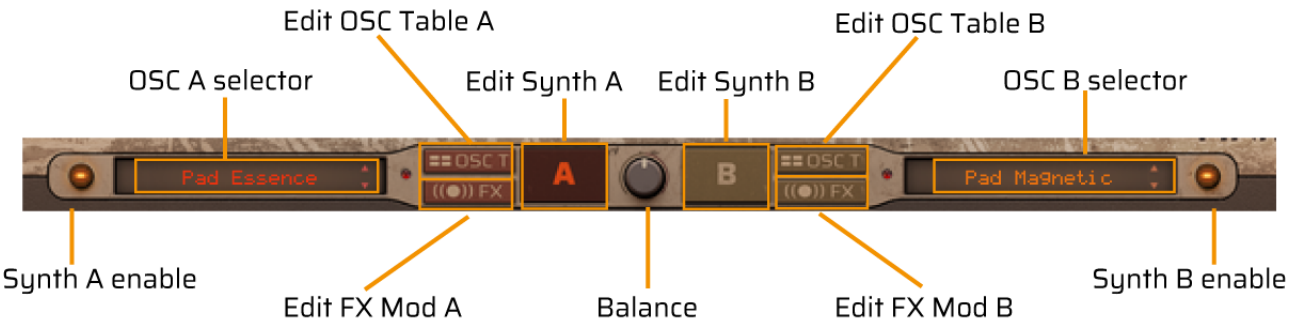
If you want to automate parameters when LINK is enabled, use the controllers of synth A (and synth B will follow the changes). If you automate synth B at the same time, changes will be ignored, but recorded for further use. They will reappear when you turn LINK off.

4.6 Advanced editing options

You can see a small round symbol in the upper left corner of each panel. If you click on it, a drop-down menu will appear with additional editing features, like copy parameters between the synth engines.
The available features depend on the panel, see the appropriate panel description for details.

5. Synth programmer

Maia features two identical Sound Engines (A and B), which can be layered together.



OSC selector

Click on the display to bring up a drop-down list of the included instruments, and then select the desired instrument from the list. You can also click the up/down buttons to step up/down in the list and load the next/previous instrument. The oscillators are grouped into the following submenus for convenient access:

Special keys:
[Shift] – click results a simple drop down list with no submenu, containing the Simple Oscillators only.
[Alt] – click displays the other complex oscillators only (with no submenu).
[Ctrl] -click loads the default value (OSC Sawtooth)

?: when the Oscillator table overrides the current setting of OSC selector, a question mark appears before the instrument name.

Edit views

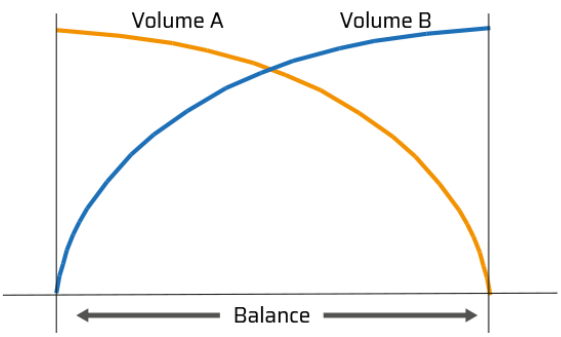
You can select which Sound Engine you want to edit by clicking on the **A** or **B switch** button.
As you can see, these buttons are divided into three parts: while the A / B buttons are for editing the **main parameters** of the synth engines (filter, envelopes and LFOs), the two smaller parts open the **OSC Table** editor or the **FX Modulation** panel. The two Sound Engines have different colour schemes to help you to identify which engine is in focus when you're editing.

Additional A/B switch buttons

Each title (eg. OSC A) on the panels is also a toggle switch button, you can quickly switch between A and B engines while preserving the view – this feature can really speed up the editing process.

Balance

The Balance knob lets you morph between the two layers with constant overall volume (using equal power crossfade).



5.1 Synth parameters panel

Each Sound Engine can hold a multisampled instrument (oscillator), which can be modulated and controlled from the programmer panel. Both Sound Engines feature identical parameters and controls. The main programmer panel is divided into 7 sections, similar to the analogue synthesizers' layout.

5.1.1 OSC panel

UNISON: duplicates each played voice. The voices can be detuned (fine and semitones) and spread across the stereo field. Please note that unison halves the polyphony. You can customise it, settings are located on the back panel.

MONO: Activate it if you want to play the current engine in a classic monophonic mode and always retrigger the envelopes as soon as you play a new note. The default playing mode is polyphonic. You can set the polyphony on the back panel.

TD: trigger delay. When enabled (default setting is off) it forces the engine to start a certain time after Note On. Please note: since the Trigger Delay is an audio delay, the Note Off is also delayed by the set delay time.

VOL: sets the maximum volume of the corresponding Engine.

OCT: sets the octave for the current Sound Engine in 5 octave range (+/- 2).

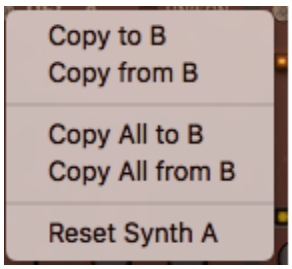
SEMI: changes the Sound Engine pitch in semitone steps. Range: +/-12 semitones.

FINE: sets the Sound Engine pitch in 1 cent steps. Range: +/- 50 cents (down or up half a semitone).

PAN: controls the stereo balance of the current Sound Engine.

VEL: sets the velocity control of the Amp Envelope. Please note that this control is bipolar, range: -100% via 0% (no modulation) to 100%. Negative value means that the Amp Volume is lowered with increasing velocity.

S.START: the Sample Start offset defines where in the sample the playback should start. Note that the effect could be different depending on the selected instrument.



Advanced editing options:

- copy the Oscillator panel's parameters
- copy all parameters of the Synth Parameters Panels (this function only available on the OSC panel)
- Reset all parameters of the Synth Parameters Panels to default (this function only available here)

5.1.2 FILTER panel

Filter enable: you can disable or enable the filter by clicking on the orange led.

LINK: it links the filter knobs of synth B to synth A. Please note that **Filter enable** and **Filter type display** won't be linked, so you can set different filter types while linking other parameters. For more info, see the **LINK options** section.

Filter type display: Click on and drag up/down on the Filter display to select one of the available filter types, or step through the filter types by clicking the Up/Down arrow buttons. The following filter types are available:
Lowpass 24 dB/octave, Lowpass 18 dB/octave, Lowpass 12 dB/octave, Lowpass 6 dB/octave, Bandpass 12 dB/octave, Highpass 12 dB//octave.

CUTOFF: sets the cutoff/center frequency. The cutoff parameter sets where in the frequency range you want the resonance and attenuation to appear.

RESO: sets the resonance amount. The resonance parameter amplifies the frequencies at, and around the cutoff/center frequency.

DRIVE switch: it enables or disables the waveshaper filter. The switch has 3 settings: OFF (disabled), PRE (before the main filter), and POST (after the main filter). Please note that the waveshaper filter is different (and independent) from the distortion effect, it provides a “per voice” overdriving, applied individually to each voice.

DRIVE: sets the amount of waveshaping in 0 – 32 dB range.

ENV: sets how much you want the Modulation Envelope to affect the CUTOFF frequency. This control is bipolar, range: -100% via 0% (no modulation) to 100%.

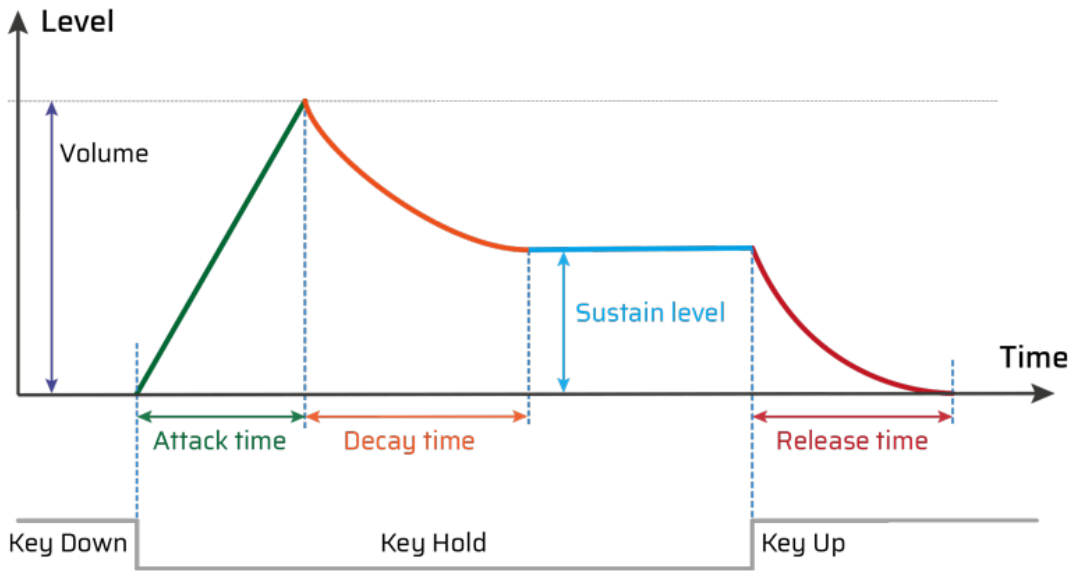
KEY: keyboard tracking sets how much the cutoff/center frequency should track incoming MIDI Notes. Range: 0% (no tracking /constant frequency) to 200% (2 semitones per key).

VEL: sets how much the cutoff/center frequency should be modulated by Keyboard Velocity. This control is bipolar, range: -100% via 0% (no modulation) to 100%. A negative value means that the filter cutoff frequency is lowered with increasing velocity.

Advanced editing options: copy parameters between synth A/B engines.

5.1.3 AMP ENV panel

The Amp Envelope is a standard ADSR envelope which controls the amplitude of the corresponding Sound Engine over time. By default the Amp Envelope controls the Volume, but it also can be used as a modulation source in the Modulation Bus. The picture below shows the various stages of the ADSR envelope:



LINK: links the envelope parameters of synth B to synth A.

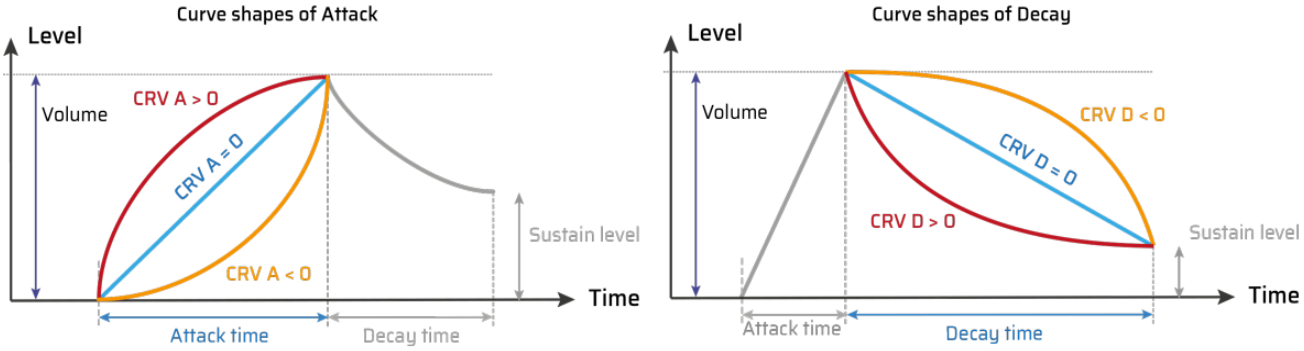
A(ttack): when you play a note on your keyboard, the envelope is triggered. This means that it starts rising from zero to the value set with the Volume knob. The length depends on the Attack time setting. If the Attack is set to "0", the Volume value is reached instantly. If the Attack value is raised, it will take a longer time before the Master Volume value is reached.

D(ecay): after the Volume value has been reached, the level starts to drop. Its period is governed by the Decay time parameter. If you want to emulate the volume envelope of a note played on a Bass Guitar for example, the Attack should be set to "0", the Decay parameter should be set to a medium value and the Sustain level should be set to "0", so that the volume gradually decreases down to silence, even if you keep holding the key down. Should you want the decay to drop to some other value than zero, you raise the Sustain parameter.

S(ustain): The Sustain level parameter determines the level the envelope should rest at, after the Decay stage. If you set Sustain to full level, the Decay setting is of no importance since the volume of the sound is never lowered. Often a combination of Decay and Sustain is used to generate envelopes that rise up to the Volume value, then gradually decreases to finally land to rest on a level somewhere in-between zero and the Master Volume value. Note that Sustain represents a level, whereas the other envelope parameters represent times.

R(elease): the Release time parameter works just like the Decay parameter, except it determines the time it takes for the volume to drop back to zero after you release the key.

CRV A: determines the curve shape of the Attack. The default settings is 0, which means linear curve. Positive value will result in a convex shape, the Attack curve is "rounded", the volume starts rising fast and reaches the final value slow. Negative value results in a concave shape, the Attack curve starts slow and reaches the final value fast (good for sudden rising sounds).



CRV D: sets the curve shape of the Decay. The default settings is 50, which results in natural sounding logarithmic curves. Negative values give a convex shape, which means that the decay phase starts to fall slow and reaches the final values fast. At setting 0 the curve is linear.
Positive value will result in concave shape, so the curve will start to fall fast and then reach the final sustain level slowly. Setting between +50 and +90 gives a logarithmic fade.

Advanced editing options: copy parameters between synth A/B engines.

5.1.3.1 Release Trigger

This switch is available only on the Synth B panel, and when it is activated, Synth B will start playing the note when you release the key.
As you can see, this switch disables the sustain and release parameters, and the decay parameter takes over the function of release.

5.1.4 MOD ENV panel

The Modulation Envelope controls the filter cutoff frequency modulation over time by default. You can adjust the modulation amount with the ENV knob on the FILTER panel.

But this is just a predefined option: feel free to use this envelope to control other parameters of the synth via Modulation Bus: pitch, LFO amount, pan, etc.

The structure of the Modulation Envelope is the same as the Amplitude Envelope. The ADSR envelope characteristics are described in detail in the "AMP ENV Panel" section.

Editing options: copy parameters between synth A/B engines.

5.1.5 LFO panel

An LFO (Low Frequency Oscillator) is used for generating cyclic modulation. Each synth engine has two low frequency oscillators to use as modulator source in the Modulation Bus.

Waveform: click and drag up and down on the waveform display to scroll through the available shapes.
There are 8 waveforms available: Sine, Triangle, Square, Saw, Random (random steps), Drift (smooth random), Saw Up and Saw Exp (exponential decay).

SYNC: The LFOs have two modes: the frequency rates can be set in Hz (cycles per seconds) or in beats (quarternotes per cycle). Selectable values: 16/4, 12/4, 8/4, 7/4, 6/4, 5/4, 4/4, 3/4, 2/4, 3/8, 1/4, 3/16, 1/8, 1/8T, 1/16, 1/32.

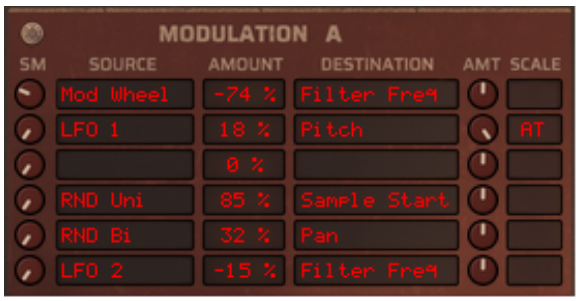
RETRIG: when enabled, the LFO restarts each time you press a new note, otherwise it runs free.
Please note that when RETRIG is enabled, the LFO runs in polyphonic mode, each note has its own LFO modulation. It's recommended for tempo synced modulations. When RETRIG is OFF, the LFO runs in monophonic mode. This latter can be useful for slow filter sweeps, panning effects, vibrato, etc.

RATE: controls the LFO frequency (Hz) in absolute mode. In tempo synced mode the Rate parameter controls the time divisions.

DELAY: turn the DELAY knob to introduce a delay before the LFO modulation kicks in after a note is played.

Advanced editing options: copy parameters between synth A/B engines.

5.1.6 MODULATIONS panel



The Synth Engine already contains some common pre-wired modulations (Amp Velocity, Filter Velocity, Key to Cutoff Filter, Mod Env to Cutoff filter). The MOD MATRIX extends these possibilities providing very flexible routings. On the modulation panel you can make connections between various modulation sources and destination parameters. Each synth engine has 6 modulation slots.

Smooth (SM): optional smoothing of the source value in 0 – 1000 ms range.

Modulation Sources

Internal sources:

- **Velocity**: incoming MIDI velocity
- **Key**: Keyboard position relative to C3.
- **Mod Env**: Modulation Envelope
- **Amp Env**: Amplitude Envelope
- **LFO 1**: internal source (LFOs can be monophonic or polyphonic, see the LFO panel)
- **LFO 2**: internal source
- **Step Seq A**: Velocity & length values of the Step Sequencer A - only works when Seq is on
- **Step Seq B**: Velocity & length values of the Step Sequencer B - only works when Seq is on
- **RND Bi**: Random bipolar (-1 - +1)
- **RND Uni**: Random unipolar (0 - +1)
- **Constant**: Constant maximum value, can be used to set an offset

External sources:

- **Modulation Wheel**: incoming MIDI CC#1 message
- **Channel Aftertouch**: incoming MIDI Channel Pressure message (monophonic)
- **Breath Controller**: incoming MIDI CC#2 message
- **Expression Controller**: incoming MIDI CC#11 message
- **Pitch Bend**: Incoming MIDI pitch bend message
- **CV in 1 - 4**: incoming CV message, unipolar. The four CV connectors are located on the back panel.

Modulation Amount

The default setting is 0. You can modify the values in -100% - +100% range by clicking on the number and then dragging the mouse up or down in vertical direction.

Modulation Destinations

Clicking on the appropriate row on the Destinations column, you can choose from various destinations.

The following modulation destinations are available:

- **Sample Start**: Sample start offset, the effect depends on the selected instrument
- **Pitch**: for pitch modulation, up to 12 semitones: Modulation amounts for semitones: 29, 41, 50, 58, 64, 70, 76, 82, 87, 91, 96, 100%
- **Filter Drive**: modulates the amount of waveshaper filter
- **Filter Frequency**: modulates the Filter Cutoff frequency
- **Filter Resonance**: modulates the Filter Resonance amount
- **Osc Volume**: you can modulate the Synth Engine's main volume
- **Pan Position**: modulates the stereo balance of the current Sound Engine
- **LFO1 Amount**: you can scale the amount of LFO1
- **LFO1 Rate**: you can modulate the LFO1 rate with another source
- **LFO2 Amount**: you can scale the amount of LFO2
- **LFO2 Rate**: modulates the LFO1 rate with another source
- **Mod Env Atk**: modulates the Attack phase of Modulation Envelope
- **Mod Env Dec**: modulates the Decay phase of Modulation Envelope
- **Mod Env Sus**: modulates the Sustain level of Modulation Envelope
- **Mod Env Rls**: modulates the Release phase of Modulation Envelope
- **Mod Env Int**: intensity, you can scale the amount of the Modulation Envelope
- **Mod Env Rate**: modulates the time of the ADR phases of the Modulation Envelope
- **Amp Env Atk**: modulates the Attack phase of Amplitude Envelope
- **Amp Env Dec**: modulates the Decay phase of Amplitude Envelope
- **Amp Env Sus**: modulates the Sustain level of Amplitude Envelope
- **Amp Env Rls**: modulates the Release phase of Amplitude Envelope
- **Amp Env Int**: intensity, you can scale the amount of the Amplitude Envelope
- **Amp Env Rate**: modulates the time of the ADR phases of the Amplitude Envelope

Scale Amount (AMT) and **Scale Source** (SCALE)
The Scale Source is an external controller for controlling the Modulation Amount. The Scale Amount governs this value: how much the Scale Source controls the Modulation Amount.

The following Scale Sources are available:

- Modwheel
- Aftertouch
- Breath Controller
- Expression Controller
- Pitch Bend
- CV in 1
- CV in 2

Advanced editing options:

- copy parameters between synth A/B engines.
- reset values of the current modulation matrix panel.

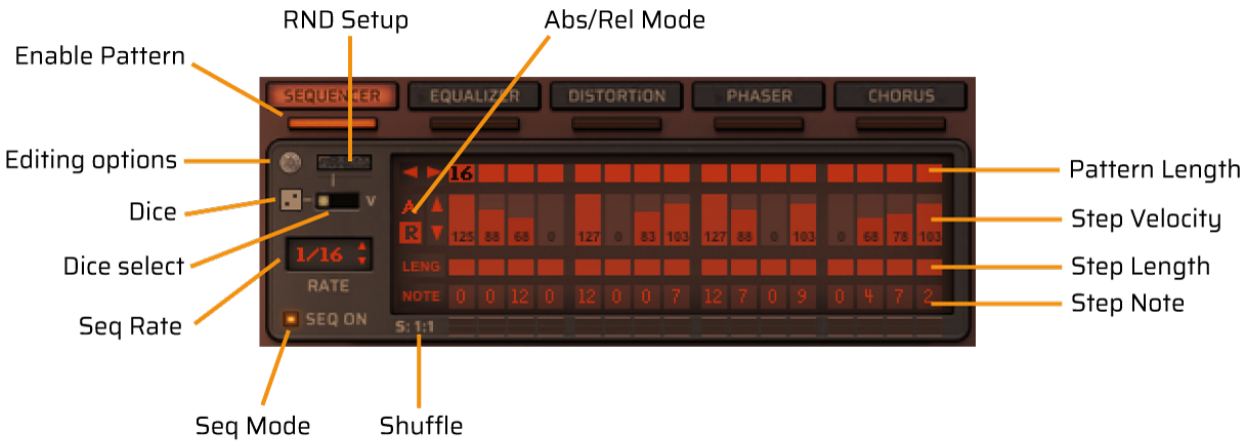
5.1.7 Pattern editor / Insert FX panel

Each synth engine has a dedicated Pattern editor for the Step Sequencer and an insert FX chain: Equalizer, Distortion, Phaser, Chorus and two sends for the global Delay and Reverb effects. The effects are processed from left to right, in the order they appear.

You can enable or disable each part by clicking on the small elongated switches. If you click on the item name, the appropriate editor will appear for editing.

5.1.7.1 STEP SEQUENCER EDITOR

It's a 16 steps pattern editor for the Step Sequencer. If Maia is in Sequencer mode and the pattern is enabled, when you play a note, the sequence will start and play continuously until you release the key. It's also possible to set different step lengths in the two pattern editor to create poly-rhythmic patterns. The Sequencer is polyphonic, which means each sequence runs independently from each other, and you can play and trig entire chords or polyrhythmic runs.



Parameters of the Pattern Editor:

Seq Mode
It's on by default. If you set this switch to off, both Seq A and Seq B will be disabled as well.

Abs / Rel Mode: sets the handling of the incoming velocity (absolute or relative). When the switch is set to ABS, the played velocities will be ignored and taken from the columns in the pattern grid. When the switch is set to REL, the played velocities will be scaled by the columns of the grid.

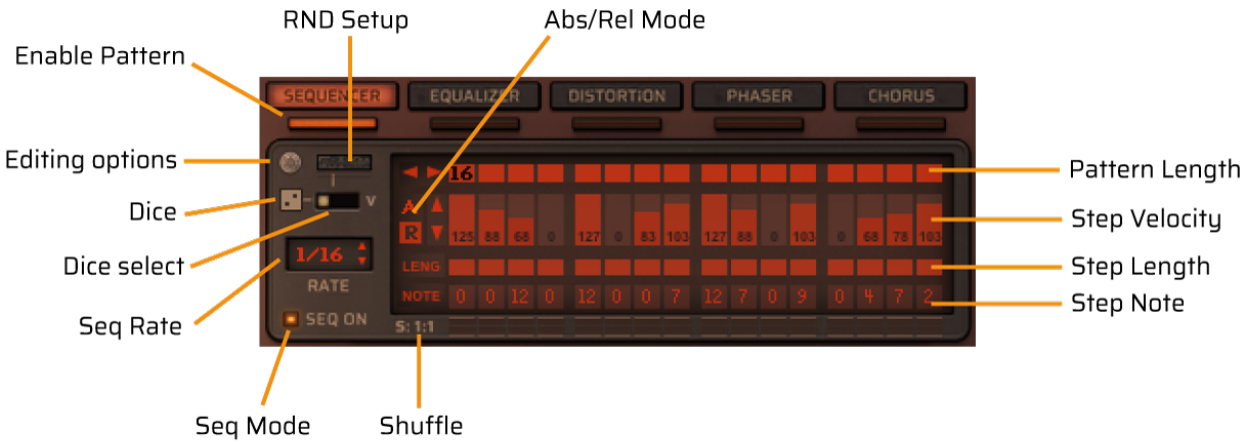
Enable Pattern: if enabled (and Seq Mode is on), when you play a note, the Step Sequencer will trigger notes according to the active pattern. If you disable it, it won't trigger notes, but the sequence will run in the background providing modulation source for the Mod Matrix.

Editing options: you can access the advanced options by clicking on that small round symbol – some of them are available on the panel as well.

Dice: activates the random generator, it works in the pattern length range.

Dice select: specify the parameters for randomizing (if you click on the Dice). It has 3 options: Velocity, Length, Note. These random functions are also available from the Editing options (drop-down menu).

Sequencer Rate: you can set the desired Sequencer Rate (in relation to the main sequencer tempo in Reason). This parameter has 5 states: 1/4, 1/8, 1/16, 1/32 and step mode. The step mode is useful if you want to use the step sequencer with a player device: in this case each note steps the sequencer forward one step at a time.



Shuffle: is a rhythmic feature, that gives the music a more or less pronounced swing feel. It works by delaying all sixteenth notes that fall in between the eighth notes. Shuffle is also available in the drop-down menu of the **Editing options**.

Pattern Length: You can set the length of the currently active Pattern. Just click to the desired length or draw it horizontally. Special options:
- [Ctrl]-click will set the length to the default value (16).
- [Alt]-click will rearrange the pattern, the step where you click will be the first step in the pattern. For example if you [Alt]-click on the 9th step, the whole pattern will be wrapped left and the ninth step will be the first: a very quick way to rearrange the active pattern with a single click! :)

Steps: each step has 3 parameters: velocity, length and note.

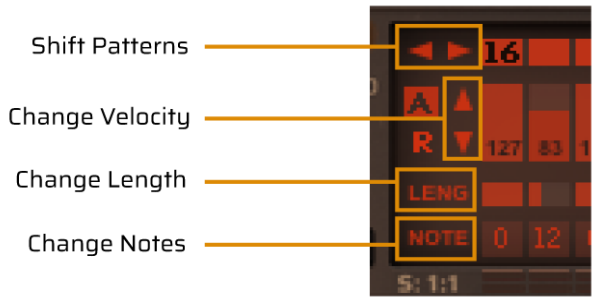
Step Velocity: you can set the desired velocity of each step by clicking and drawing on the grid and/or drag it up/down. [Ctrl]-click will set the value to maximum (127), [Alt]-click will set it to 0.
If you press shift while the mouse button is pressed, the editor will switch to "precise" mode. In precise mode the cursor "sticks" to the current step and you can make very precise modifications by dragging it up/down. If you release the mouse button, the editor returns to normal mode.

Step Length: it's a horizontal fader, you can select the desired note length for each step by clicking on the field and dragging it horizontally to adjust. The selectable values: 25, 50, 75, 100.

Step Note: set a note offset to each step, can be used to create melodic sequences.
You can set the desired note offset by click-holding on the number and dragging up/down. The available range is +/- 24 semitones. [Ctrl]-click will set the default value (0).

RND Setup: this button opens the Randomizer Setup panel.

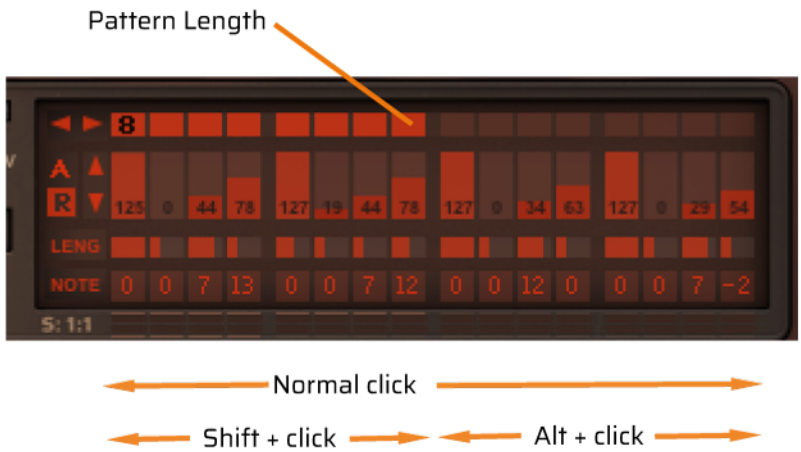
STEP SEQUENCER EDITING TOOLS



You can find some useful editor tools on the LCD panel of the Step Sequencer.

Shift Patterns

It's a left-right momentary button, it shifts/rotates the elements of the whole pattern left or right.
Special options: [Shift]-click moves the elements inside the pattern length range, [Alt]-click moves only those elements that are outside of the pattern length range.



Note: you can rearrange the pattern by [Alt]-clicking on the Pattern Length bar: in this case the column that you clicked will be the first element, and the whole pattern will be shifted accordingly.

Change Velocity

You can increase or decrease the velocity of the steps in the pattern length range.
Normal click changes the values of velocities by five. For smooth changes press the [Shift] button.
[Alt]-click will change only those values that are not 0 (at increasing), or not 127 (at decreasing), it may help to keep the original sequence's structure.

Change Length

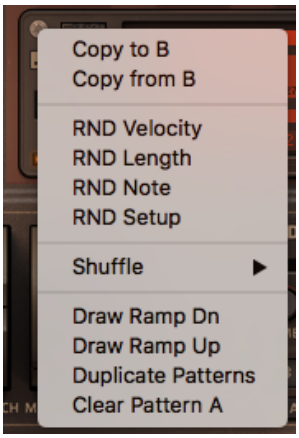
This hidden button has two positions: you can increase (right side) or decrease (left side) the length of the steps in the pattern length range. This button has no special modifier keys.

Change Note

Same as the previous one, but it changes the notes in the -24 - +24 semitone range.

ADVANCED EDITING OPTIONS

If you click on the small round symbol at the top left corner, a drop-down menu will open, giving you further editing options.



Copy to / Copy from
You can copy patterns between the two synth engines.
Parameters copied: velocity, length and note values for 16 steps, Seq rate, Absolute/Relative play mode.

RND Velocity
Randomize velocities in the pattern length range, according to the Randomizer setup settings.

RND Length
Randomize step lengths in the pattern length range, according to the Randomizer setup settings.

RND Note
Randomize notes in the pattern length range, according to the Randomizer setup settings.

RND Setup
Opens the Randomizer setup panel.

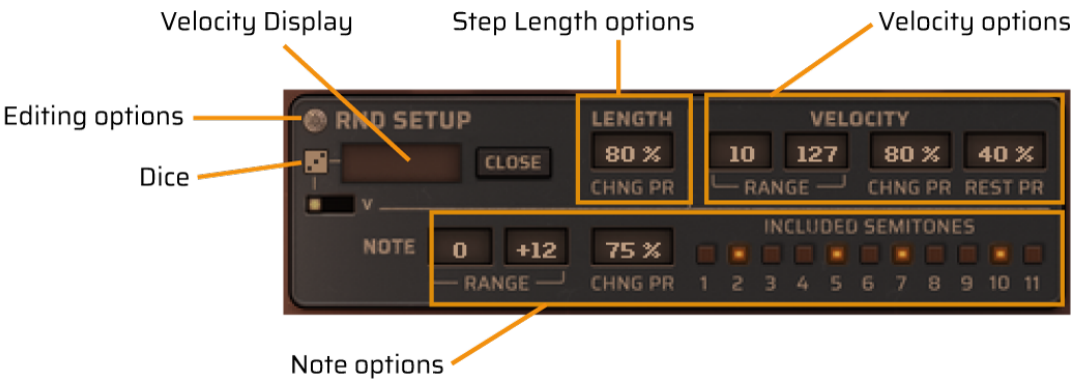
Shuffle
Offers the same 4 options as the Shuffle button on the Seq panel:
1:1 (50%) - means no shuffle, 3:2 (60%), 2:1 (67%), 3:1 (75%)

Draw Ramp Dn / Draw Ramp Up
Draws a ramp in the pattern length range.

Duplicate Pattern
Duplicates the content of the pattern in the pattern length range if the length is less than 15.

Clear Pattern
Clears the active pattern and sets the velocity, note and length values to the default.
Please note, this function doesn't effect the seq rate, Abs/Rel and Pattern Length values.

5.1.7.2 RANDOMIZER SETUP panel



Step Length options

- CHNG PR: sets the probability of random changes in the step length values.

Velocity options

- RANGE: sets the velocity range for the randomly generated velocity values
- CHNG PR: sets the probability of changes
- REST PR: sets the probability of creating rest values (where velocity = 0)

Note options

- RANGE: sets the note range for the randomly generated note shift values
- CHNG PR: sets the probability of changes
- INCLUDED SEMITONES : specifies which notes are allowed for generating*. The root note is always included.

* Examples:

- 2, 5, 7, 9: random notes in pentatonic scale
- 7: only octaves and fifths
- 3, 7: random notes in minor scale
- 4, 7: random notes in major scale
- all cleared: only octaves

5.1.7.3 EQUALIZER

It's a four-band equalizer with two parametric middle bands.

EQ Parameters:

- **LF FREQ**: Low shelf frequency
- **LF GAIN**: Low frequency boost or cut
- **LMF FREQ**: Low-mid center frequency
- **LMF GAIN**: Low-mid frequency boost or cut
- **LMF Q**: Low-mid bell bandwidth
- **HMF FREQ**: High-mid center frequency
- **HMF GAIN**: High-mid frequency boost or cut
- **HMF Q**: High-mid bell bandwidth
- **HF GAIN:** High frequency boost or cut
- **HF FREQ**: High shelf frequency
- **OUTPUT**: level trim to compensate for any gain change due to equalization

Advanced Editing options: if you click on the small round symbol at the top left corner, a drop-down menu will open.

- copy EQ parameters between synth A/B engines
- copy ALL insert FX parameters between synth A/B engines
- reset EQ to the default values
- reset ALL insert FX parameters to the default values

Note: You can see a small “FX MOD A” or “FX MOD B” switch on each FX panel. This is a shortcut to open the FX modulation panel.

5.1.7.4 DISTORTION

Stereo distortion/overdrive effect.

Distortion parameters:

- **Drive**: input gain to the distortion
- **Mode**: Transistor (stereo hard clipping) or Tube (soft clipping with DC bias)
- **Rectify**: degree to which negative signal peaks are converted to positive
- **Low Cut**: highpass filter before distortion
- **High Cut**: lowpass filter before distortion.
- **Dry**: level of the unprocessed input signal sent to the output
- **Wet**: level of the effected signal

Advanced Editing options:

- copy Distortion parameters between synth A/B engines.
- copy ALL insert FX parameters between synth A/B engines
- reset Distortion to the default values
- reset ALL insert FX parameters to the default values

5.1.7.5 PHASER

Phaser effect with up to 8 poles (4 peaks/notches).

Phaser parameters:

- **Rate**: modulation rate in Hz
- **Depth**: center frequency modulation amount
- **Feedback**: Add resonant peaks between the notches
- **Invert**: flip feedback polarity for a different sound character
- **Center**: center frequency
- **Spread**: offset between left and right center frequencies
- **Poles**: number of stages (more stages = more peaks and notches)
- **Mix**: dry/wet mix.

Advanced Editing options:

- copy Phaser parameters between synth A/B engines.
- copy ALL insert FX parameters between synth A/B engines
- reset Phaser to the default values
- reset ALL insert FX parameters to the default values

5.1.7.6 CHORUS

Chorus effect for creating a thicker, fatter, wider sound.

Chorus parameters:

- **Rate**: modulation rate in Hz
- **Depth**: depth of delay (pitch) modulation.
- **Delay**: pre-delay for each voice
- **SQR/Sine** switch: Square or sine wave LFO modulation
- **Voices**: number of chorus voices
- **Mix**: dry/wet mix.

Advanced Editing options:

- copy Chorus parameters between synth A/B engines.
- copy ALL insert FX parameters between synth A/B engines
- reset Chorus to the default values
- reset ALL insert FX parameters to the default values

5.1.7.5 DELAY AND REVERB SEND

Delay: turn the DELAY knob to set the signal level to the global Delay send effect.

Reverb: turn the REVERB knob to set the signal level to the global REVERB send effect.

LINK: it links the send reverb and delay parameters of synth B to synth A.

5.2 Oscillator Table Editor

Oscillator table is an exciting feature of Maia Dual Synth - providing a unique way to create continuously changing wave sequences. Wave sequencing is a method of polytimbral sound generation in which different PCM waveform data are played successively, resulting in continuously evolving sounds. Most conventional synthesizers require you to pre-select the type of oscillator or preset. The OSC table doesn't have this limit. It can work perfectly either with the internal step sequencer or you can use various playing modes to change the sound's character on the fly.

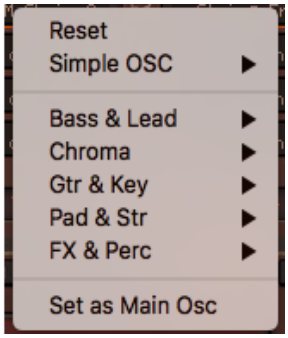
Click the OSC Table editor symbol near the A / B switch to open the editor window. The tables contain up to 16 fields, and you can specify different Oscillators to each slots. While playing, the synth can switch among these Oscillators in real time.

As you can see, each slot has a small LED to display the playing notes. These LEDs can be in 3 states: off, on and half-glowing. The first two functions are quite obvious, the LED lights up until the slot is active.

The **glowing state** is a visual aid: it will be visible when the position of the next active oscillator is to be predicted. For example, when the OSC Table is in “step” mode and the step sequencer's pattern is active, the algorithm can calculate the next active oscillators. In this case it shows the pattern of the Step sequencer in the active range. If the length of the Osc Table is greater than the Step Sequencer's length, the whole first cycle of the active range will be calculated.
This visual aid will still be visible after you've assigned the play mode to a MIDI controller, since its actual value is measurable.
Obviously it won't work if the play mode is set to Random, Key, or Velocity mode, because in these modes the next position is not predictable.

PARAMETERS OF THE EDITOR

Oscillator slot 1-16: click on the display to bring up a drop-down list of the included oscillators / instruments, and then select the desired instrument from the list. The default setting is "- no change -".
In this case Maia will use the instrument that you set on the main OSC Selector. The last option in the list, "Set as Main Osc" will set the current field's OSC as the main OSC of the current synth engine. It can be useful if you want to pick an OSC from the table. This function works even if the OSC Table is disabled.



Preview buttons: the serial numbers before the fields are not just numbers - they're also preview buttons. Click any of them, and you will hear the oscillator in question. It can be helpful when you build up a sequence and want to listen to the oscillators one by one.

Play Mode: determines how the synthesiser switches among the oscillators.

- Step mode: the playback progresses step by step in the active range and then restarts. You can activate the "RESTART" option if you want to restart it manually using a midi key.

- Velocity mode: the elements of the Osc table will be selected according to the incoming note's velocity. The velocity scales depend on the Table Length, see the Appendix for the details.

- Key mode: selects the elements according to the incoming MIDI note value. Use the "Start from" option to specify which note you want to be the first element of the OSC table.

- Random mode: this mode selects the elements randomly in the active range.

- Controller mode: you can select an external controller to switch among the oscillators. The following controllers are available: **Modwheel, Breath, Expression, Pitch bend, CV in 1 - 4**. The CV inputs have two different modes, they can be unidirectional (values between 0 and 1) or bidirectional (between -1 and +1) . For example envelopes are unidirectional in general, while LFOs usually provide bidirectional modulations.

Table Length: specifies the active range of the Osc Table. This automatable parameter can be modulated on the FX mod panel using various external controllers.

Shift: is a left-right momentary button, it rotates the elements of the whole table left or right.
Special options: [Shift]-click moves the elements inside the table length range, [Alt]-click moves only those elements that are outside of the table length range.

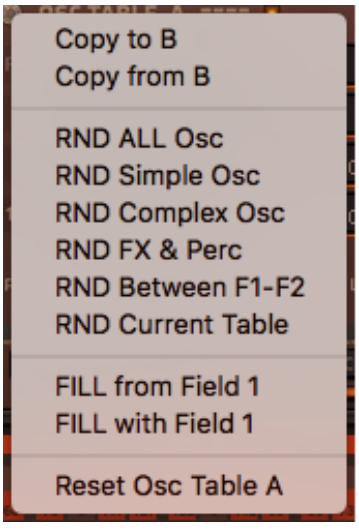
Preview Note: you can define which note to be played when you click on the preview buttons. When the Osc Table is in velocity mode, the notes will be played with the appropriate velocities.

Play mode Options

Step mode: RESTART
You can specify a key on the keyboard to restart the Osc Table. When RESTART is enabled, the specified MIDI key works as a restart switch (same as the Restart button on the global control panel) and it will be excluded from the playing keys. This function only works when OSC tables are in step mode.
When you press the key, it restarts the counters of the OSC tables, and the next note will play from position 1. It can be helpful if you play a melody on the keyboard and don't want to go through the whole table.

Key mode: Start from
You can specify which note you want to be the first element of the OSC table. The default value is C1.

ADVANCED EDITING OPTIONS



If you click on the small round symbol at the top left corner, a drop-down menu will open, giving you further editing options.
Copy to / Copy from: you can copy the content of the current active table to the other (B) table or vica versa. The tables contain the following data: osc table values of the 16 slots, play mode and oscillator table length.

RND: the randomizer provides several options on how to fill the active range with randomized oscillators.
You can select sound types (All, Simple Osc, etc.), or you can define a range with the RND Field 1 & 2 option: select an oscillator in field 1 and another one in field 2, and they will define a range for randomization.
The “RND Current Table” function uses the current content of the table, and randomly shuffles its elements.
FILL: These functions fill the Oscillator fields starting from Field 1 up to Table length.

Reset: you can reset the current table's content to the default values. This option is inactive when all table elements are in default position.

5.3 FX Modulations

Click the FX Modulation symbol near the A / B switch to open the FX modulation panel.

The editor panel has two parts. The left part shows the Insert FX modulations of the current synth engine, on the right part you can see the Global FX modulations (identical for both for Synth A and B engines).

All three FX modulation panels (A, B and Global) contains 5 modulation slots and each slot has a dedicated LFO. The operation of these modulations may be unusual at first, but this diagram can help you understand how they work:

As you can see, the modulations always need a source, even if you want to use only the LFO without external source. In this case you can choose the “Constant” source from the drop-down list.
When you activate the LFO, it will take over the source and the external source can control the amount or rate of the LFO. When the LFO is set to off, the source works as usual.

FX MODULATION PARAMETERS

LFO wave select

You can choose the following waveforms: triangle, square, saw, inverted saw, random, drift.
If you set this knob to off, all LFO parameters will be ignored.

LFO retrig

Restart the LFO after pauses in the bus input audio (unsynced only), and when the reference bar beat changes.

LFO rate

controls the LFO frequency (Hz) in absolute mode. In tempo synced mode the Rate parameter controls the time divisions.

LFO sync

The LFOs have two modes: the frequency rates can be set in Hz (cycles per seconds) or in beats (quarternotes per cycle).

LFO rate mod by source

You can adjust how the modulation source control the LFO rate.

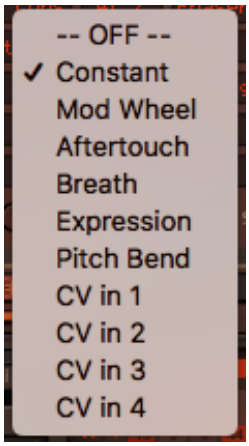
LFO amount by source

You can adjust how the modulation source control the LFO amount.

Modulation sources

The following sources are available:

- Constant
- Modulation Wheel (CC#1)
- Channel Aftertouch,
- Breath controller (CC#2)
- Expression pedal (CC#11)
- Pitch Bend
- CV in 1 - 4 (unipolar)



If you activate the LFO, the source display changes, indicating that the modulation mode has also been changed, eg. Mod Wheel - > LFO * MW.
When you set the source to OFF, the whole modulation slot will be disabled.

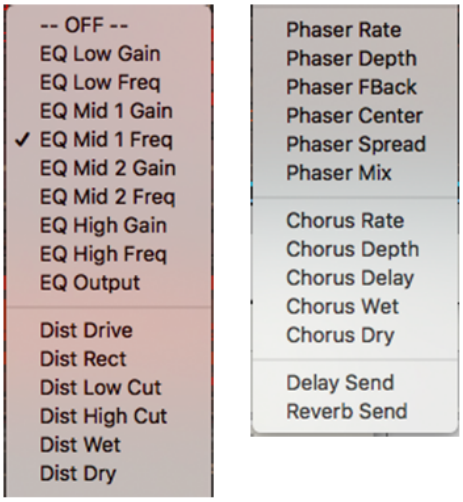
Modulation amount

The default setting is 0. You can modify the values in -100% - +100% range by clicking on the number and then dragging the mouse up or down in vertical direction.

Modulation destination

Clicking on the appropriate row on the Destinations column, you can choose from various destinations. The drop-down menu is divided into sections, according to the effect types.

Insert FX destinations



Global FX destinations

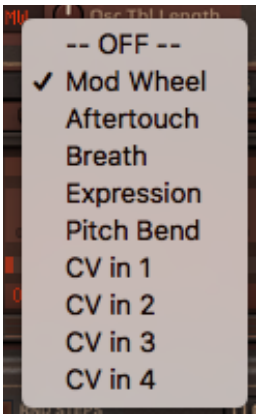
Additional modulations

Although these are not effects, you can find some additional modulation options in the FX mod panels.

Modulation sources

These modulations can use the same external modulation sources:

- Modulation Wheel (CC#1)
- Channel Aftertouch,
- Breath controller (CC#2)
- Expression pedal (CC#11)
- Pitch Bend
- CV in 1 - 4 (unipolar)



Insert FX panel

The following 3 options are located on the Insert FX panel as they can be configured separately for the Synth engines A and B:

Seq Rate: you can control the active rate of the Step Sequencer using an external controller.

Seq Length: changes the active pattern's length of the Step sequencer using an external controller.

Osc Tbl Length: you can control the active Osc table length using an external controller.

Global FX panel

A/B Balance: you can control the A/B balance parameter using an external controller. This modulation slot is located on the Global FX panel.

Lightning symbol

When you modulate a destination on the FX Mod panels, a small lightning symbol appears next to the modulated parameter's name. This is just a visual aid, indicating that the current parameter value may depend on an external modulation.

6. GLOBAL EFFECTS

The GLOBAL EFFECTS section is located under the Synth Programmer panel. These effects – as the name suggests - are global, which means they're applied to both Synth engines – see the "1. Structure" section for more information on how they're connected.

6.1 AUDIO IN

The Audio input can be used to connect other stereo devices to Maia and take the full advantage of Maia's dual multi-effect chain.

FX Enable switch: you can enable or bypass the effects of Maia, similar to the bypass function of Reason's effect devices.

A / B select: sets the active Insert FX chain. You can set different effect settings on Synth A and Synth B, and toggle between settings using this switch.

Level: sets the audio input level. The max value is +3 dB.

6.2 DELAY

Stereo delay effect with adjustable feedback routing and left/right panning option.

ON/OFF switch: you can enable or disable the effect

TIME: sets the delay time

FEEDBACK: feedback form delay output to input to create multiple repeats

RATIO: Negative values reduce the left channel delay, positive values reduce the right channel delay.

DAMP: lowpass filter for progressive damping of each delay repeat

SYNC: sets the TIME parameter to seconds or quarternote beats

PING PONG: activate it to get the delay repeats alternating from the left and right channels.

6.3 REVERB

Maia Dual Synth features two different reverb models: a Convolution reverb and an algorithmic reverb.

Convolution Reverb

Algorithmic Reverb

Common parameters

ON/OFF switch: you can enable or disable the effect
CONV switch: you can switch between the two reverb models

Convolution Reverb parameters

Convolution type: click on the display to bring up a drop-down list of the included impulses, and then select the desired impulses from the list.
PRE DELAY: initial delay before reverb
DECAY: applies a volume ramp (decreasing or increasing) to the impulse to adjust the perceived reverb time
Algorithmic Reverb parameters

TIME: length of reverb tail.
PRE DELAY: initial delay before reverb
HI DAMP: progressive loss of high frequencies in reverb tail
LO DAMP: progressive loss of low frequencies in reverb tail

6.4 COMPRESSOR

Punchy compressor effect for controlling dynamic range and shaping transients.

ON/OFF switch: you can enable or bypass the effect

P F S switch: sets detector mode.
Punch: follow envelope below threshold, which increases attack punch as the envelope has further to come back up.
Fast: normal envelope detection with fast attack and release.
Smooth: Release slows down as signal falls below threshold.

Threshold: audio level above which compression is applied.

Attack: time it takes for gain reduction to increase when the signal level rises

Release: time it takes for gain reduction to increase when the signal level falls

Gain: adjust the output volume to compensate for any loss in level due to compression.

Ratio: amount of gain reduction to apply

Dry mix: mixes compressor output with input signal.

6.5 LIMITER

This is a safety limiter to keep levels in check, with a fixed 0 dBFS threshold.
The limiter has two modes, it can be soft or hard limiter.

You can enable or bypass it by clicking on the small led switch.

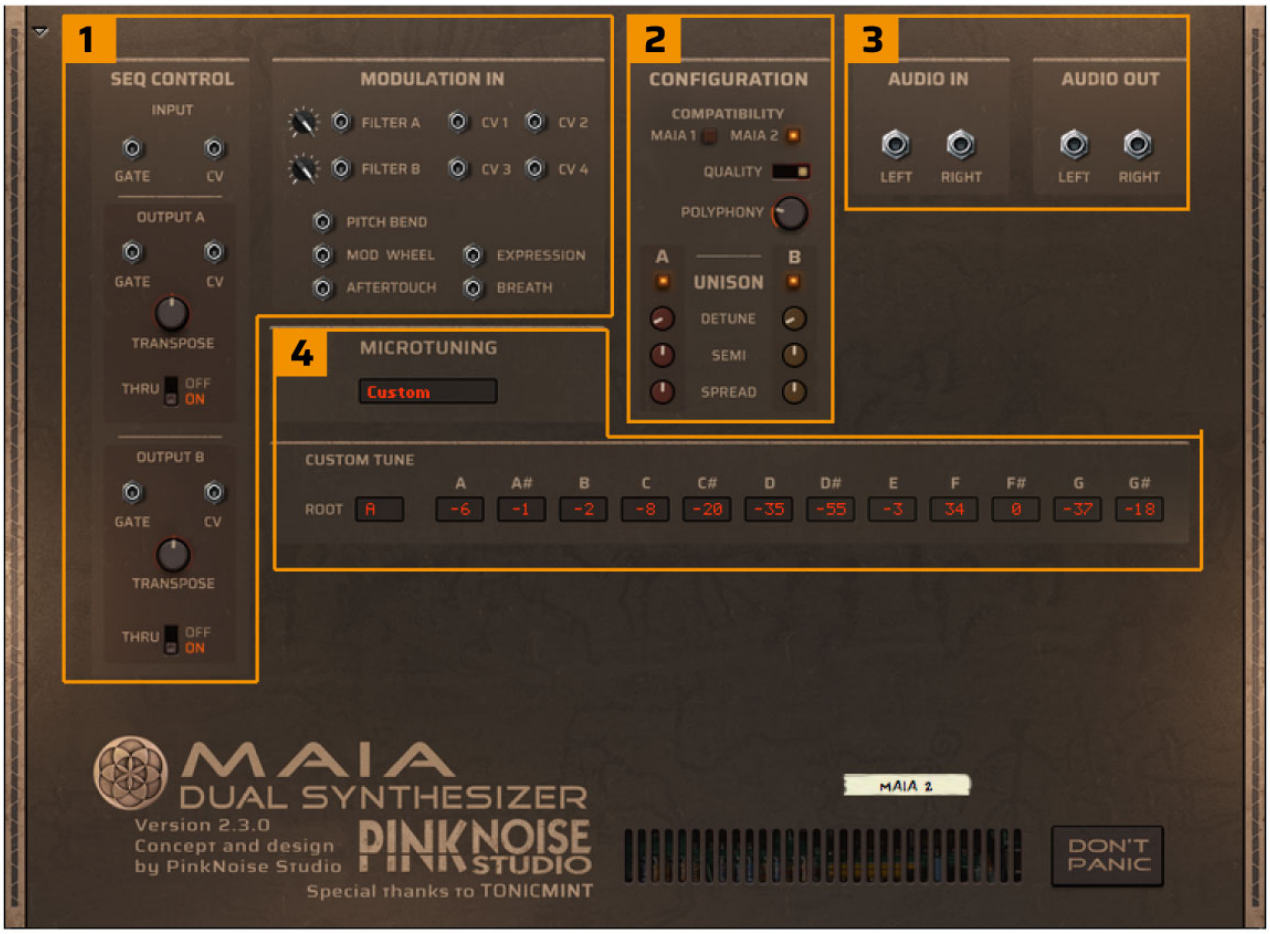
The **Master Volume** sets the main instrument's volume.

7. Back panel

Important: please keep in mind that CV connections are NOT stored in the patches! If you want to store CV connections between devices, put them in a Combinator device and save the Combi patch.

The back panel contains four sections:

1) CV connections
2) Configuration
3) Audio connections.
4) Microtuning panel



7.1. CV connections

7.1.1 SEQ CONTROL

Input: the Sequencer Control CV and Gate inputs allow you to play Maia from another CV/Gate device (eg. Matrix or RPG-8). The signal to the CV input controls the note pitch, while the signal to the Gate input delivers note on/off along with velocity.

Output A and Output B allows you to use the dual Step Sequencer to control other instruments in Reason. **Output A** sends out the trigger signals of Synth A, while **Output B** sends the signals of Synth B.

Gate: transmits a gate/velocity value that corresponds to the Velocity parameter in the Pattern editor.

CV: transmits the notes generated by the sequencer (or the notes you input to the synth, if **THRU** is enabled).

TRANSPOSE: it allows you to transpose the Note CV output in semitone steps (+/- 24 semitones).

THRU: when enabled, the incoming MIDI notes and the Pitch bend generated notes (when Discrete glissando retrigger mode is active) will be transmitted to the CV outputs, according to the Keysplit settings.
If THRU is disabled, only the sequencer's signals will be transmitted.

7.1.2 MODULATION IN

These control voltage (CV) inputs can receive external CV messages from other Reason devices.

CV IN 1 - 4 and the external midi controllers can be used in the Modulation Bus as a modulation source.

The values of these CVs are merged with the incoming MIDI CC values that the synth receives.

7.2. Configuration

COMPATIBILITY: this switch ensures backward compatibility with the previous version of Maia.
If you set it to "MAIA 1", the Seq rate will work as a global parameter and Seq Rate B will be ignored.

QUALITY: sample playback interpolation mode. Each mode has a different trade-off between CPU load and sound quality.

- High: higher quality and CPU load.
- Mid: Middle quality and moderate CPU load.
- Eco: Standard 4-point Lagrange interpolation. Sufficient quality for most sounds with low CPU load.

POLYPHONY: the number of voices. These settings determine the number of voices that the synth engines (A and B) can play simultaneously. A synth voice is active when its amp envelope value is not zero.

UNISON: you can enable or disable the unison function for Synth A and Synth B.

Unison parameters

DETUNE: controls the pitch distance between the voices in cents, with a maximum range of one semitone (at 100%). The default settings is 10%, which detunes the main voice by -5 cents and the second voice by +5 cents.

SEMI: adds a semitone offset to the second voice in -12/+12 semitone range. You can use it as an octaver, or you can even define chords with a combination of the other synth's unison.

SPREAD: increasing the value of this parameter will result in the two sounds panning left-right in stereo space.

7.3 Audio Connections

7.3.1 AUDIO IN

The Audio input can be used to connect other stereo devices to Maia and use it as an FX device.

7.3.2 AUDIO OUT

Stereo output of Maia. When you create a new Maia device, these outputs are auto-routed to the first available Mix Channel in the Reason main mixer. If there is no Mix Channel available, a new one will be created automatically.

7.4 Microtuning

Microtuning is the term used to describe tiny frequency adjustments, where the steps between the notes of the scale are smaller than a semi-tone or 100 cent.

Maia Dual Synth offers several microtuning preset:

- Equal Tempered scale – no microtuning, this is the normal western music scale.
- Harmonic scale - tuning start from C: -6, -1, -2, -8, -20, -35, -55, -4, 35, 0, -37, -18 cents
- Pythagorean scale - tuning start from C: -6, 8, -2, -12 ,2, -8, 6, -4, 10, 0, -10, 4 cents
- Just Intonation scale - tuning start from C: -6, -16, -2, -12, 2, -8, 6, -4, -14, 0, -10, 4 cents
- Indian scale - tuning start from C: -6, 6, -2, 10, -20, -8, 6, -4, -14, 0, 12, -18 cents

If you choose the Custom option, you can create your own microtuning scale.

8. Credits

Andras Haasz: concept and UX design, programming, sound recording & editing, sound & patch design

Voger Design & PinkNoise Studio: GUI design

Additional patch design:

- Eric Corminier (EC)
- Loque (LQ)
- Marco Raaphorst (MR)
- Navi Retlav (NR)

Special thanks to:

- Mihaly Botyanszki (TONICMINT)
- Samuel Haasz
- Paul Kellett
- Loque
- Patrick Maerker
- Roland Pauk

9. Appendix

9.1 Oscillator list of Maia Dual Synth

Note: the V2 oscillators are marked in blue.

0	Off	39	Osc Formant1	78	Chroma Xylophone	117	Pad Sweep LFO
1	Osc SAW	40	Osc Formant2	79	Gtr Acoust 1	118	Pad String Ens 1
2	OSC SAW v2	41	Osc Formant3	80	Gtr Acoust 2	119	Pad String Ens 2
3	Osc Square	42	Osc Formant4	81	Gtr Flamenco	120	Pad String Ens 3
4	Osc Square v2	43	Osc Formant5	82	Gtr LP	121	Pad String Jarre
5	Osc Triangle	44	Osc Formant6	83	Gtr Martin	122	Pad String Solo
6	Osc Pulse 10	45	Osc Formant7	84	Gtr Muted	123	Pad Str Trance
7	Osc Pulse 17	46	Osc Formant8	85	Gtr Nylon	124	FX Bottle Pad
8	Osc Pulse 25	47	Bass Acoustic	86	Gtr Sitar	125	FX Feedback
9	Osc Pulse 30	48	Bass Distr Acid	87	Gtr Strato	126	FX Himalaya
10	Osc PWM SAW 1	49	Bass Finger	88	Key Brass Sect	127	FX Lightsaber
11	Osc PWM SAW 2	50	Bass Hohner B2	89	Key Dulcimer	128	FX Nebula
12	Osc PWM SQR 1	51	Bass Nord	90	Key Harp 1	129	FX Metal Tension
13	Osc PWM SQR 2	52	Bass Picked 1	91	Key Harp 2	130	FX Metal Wind
14	Osc Juno Saw	53	Bass Picked 2	92	Key Organ E 1	131	FX Metal Noise
15	Osc Juno Sqr	54	Bass ResoScan	93	Key Organ E 2	132	FX Particle Noise
16	Osc Juno PWM	55	Bass Slap	94	Key Organ E 3	133	FX Pink Noise
17	Osc SuperSaw1	56	Bass SuperFat	95	Key Organ Pipe 1	134	FX S&H Noise
18	Osc SuperSaw2	57	Bass Volcano	96	Key Organ Pipe 2	135	FX White Noise
19	Osc SuperSqr	58	Lead Arco String	97	Key Organ Rock	136	FX AcBs Noise
20	Osc FM 1	59	Lead Brute Notch	98	Key Piano E 1	137	FX ElBs Noise
21	Osc FM 2	60	Lead Calliope	99	Key Piano E 2	138	FX EGtr Noise
22	Osc FM 3	61	Lead Flute	100	Key Piano E 3	139	FX AcGtr FretNs
23	Osc FM 4	62	Lead Oxygene	101	Key Piano Klub	140	FX ElGtr FretNs
24	Osc FM 5	63	Lead Phat Sync	102	Key Piano Pop	141	FX JzGtr FretNs
25	Osc Reso 1	64	Lead Sax Blow	103	Key Pizz D50	142	Perc Chyna Cym
26	Osc Reso 2	65	Lead Trump 1	104	Key Pizz Vln	143	Perc Conga Open
27	Osc Reso3	66	Lead Trump2	105	Pad Bell Vox	144	Perc Conga Slap
28	Osc SawX 1	67	Chroma Bells	106	Pad Big Nord	145	Perc Ride Bell
29	Osc SawX 2	68	Chroma Bottles	107	Pad Big Sweep	146	Perc Ride Cym
30	Osc SawX 3	69	Chroma Celesta	108	Pad Choir Aah	147	Perc Shake It
31	Osc SawX 4	70	Chroma Gamelan	109	Pad Choir Ooh	148	Perc Timpa
32	Osc SawX 5	71	Chroma Glocken	110	Pad Choir Woo	149	Perc Tumba Open
33	Osc Sine Harm1	72	Chroma Kalimba	111	Pad Essence	150	Perc Tumba Slap
34	Osc Sine Harm2	73	Chroma Log Drum	112	Pad Fantasy		
35	Osc Sine Harm3	74	Chroma Marimba	113	Pad FMChoir A		
36	Osc Sine Harm4	75	Chroma Music Box	114	Pad FMChoir I		
37	Osc Sine Harm5	76	Chroma SteelDrum	115	Pad FMChoir O		
38	Osc Sine Harm6	77	Chroma Vibes	116	Pad Magnetic		

9.2 Velocity Scales of the Osc Table