dreadbox

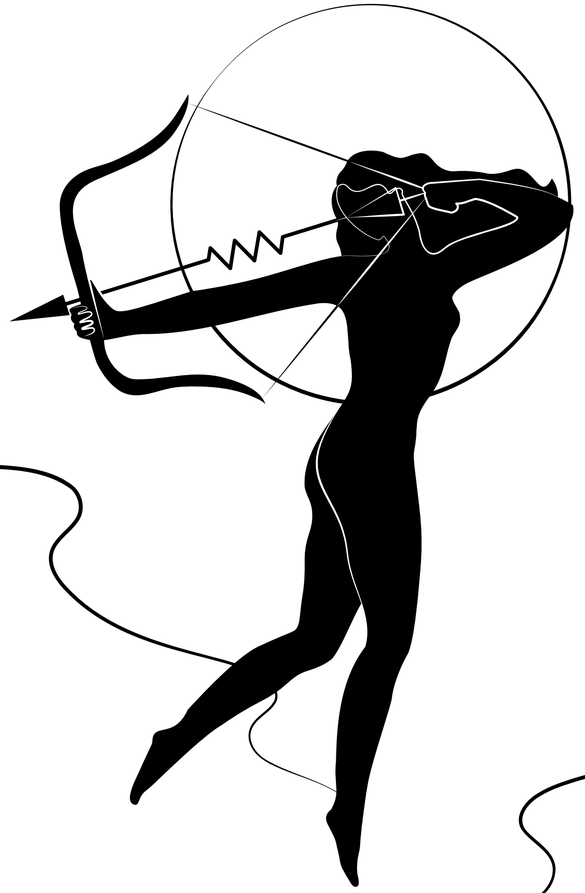
Product Manual

version 1.2.0

ARTEMIS

6 VOICE ANALOG SYNTHESIZER

Back in ancient times, Artemis was the goddess of the hunt and the wild, her silver bow always at the ready. Her arrows, swift and precise, never missed their mark. Though known for her mercy and justice, she was fiercely protective of the wilderness she called home. Mortals respected Artemis; those who honoured nature could seek her aid, while those who disrespected it faced swift retribution.



Even now, Artemis is said to roam the forests under the moon's silver light, her nymphs following close behind. Those who tread the wild lands with care may catch a glimpse of her silhouette—bow in hand, gliding silently through the woods.

Contents

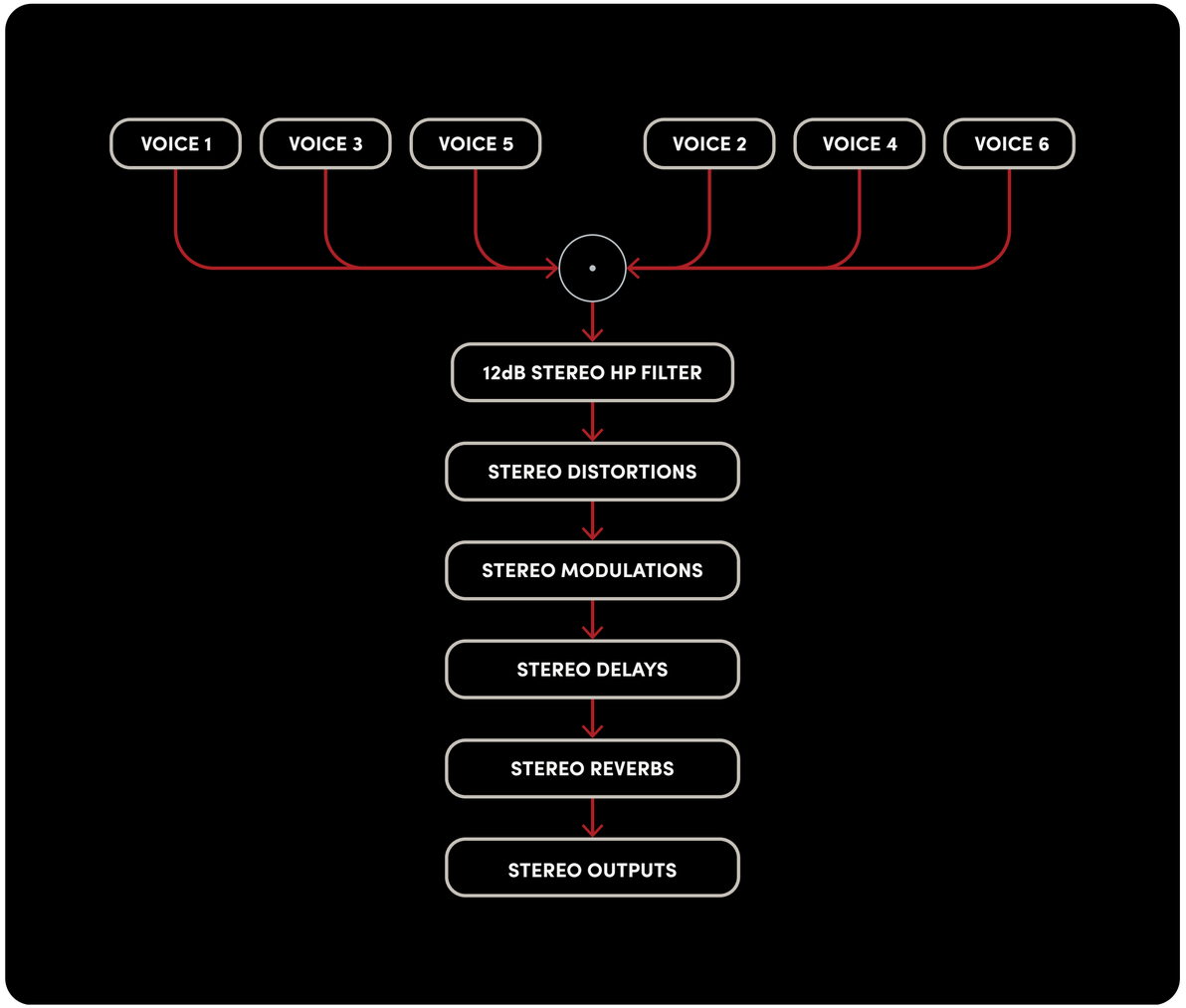
01 Colour Coding

To help you quickly match the panel controls with the instructions in this manual, we've used the following color coding system:

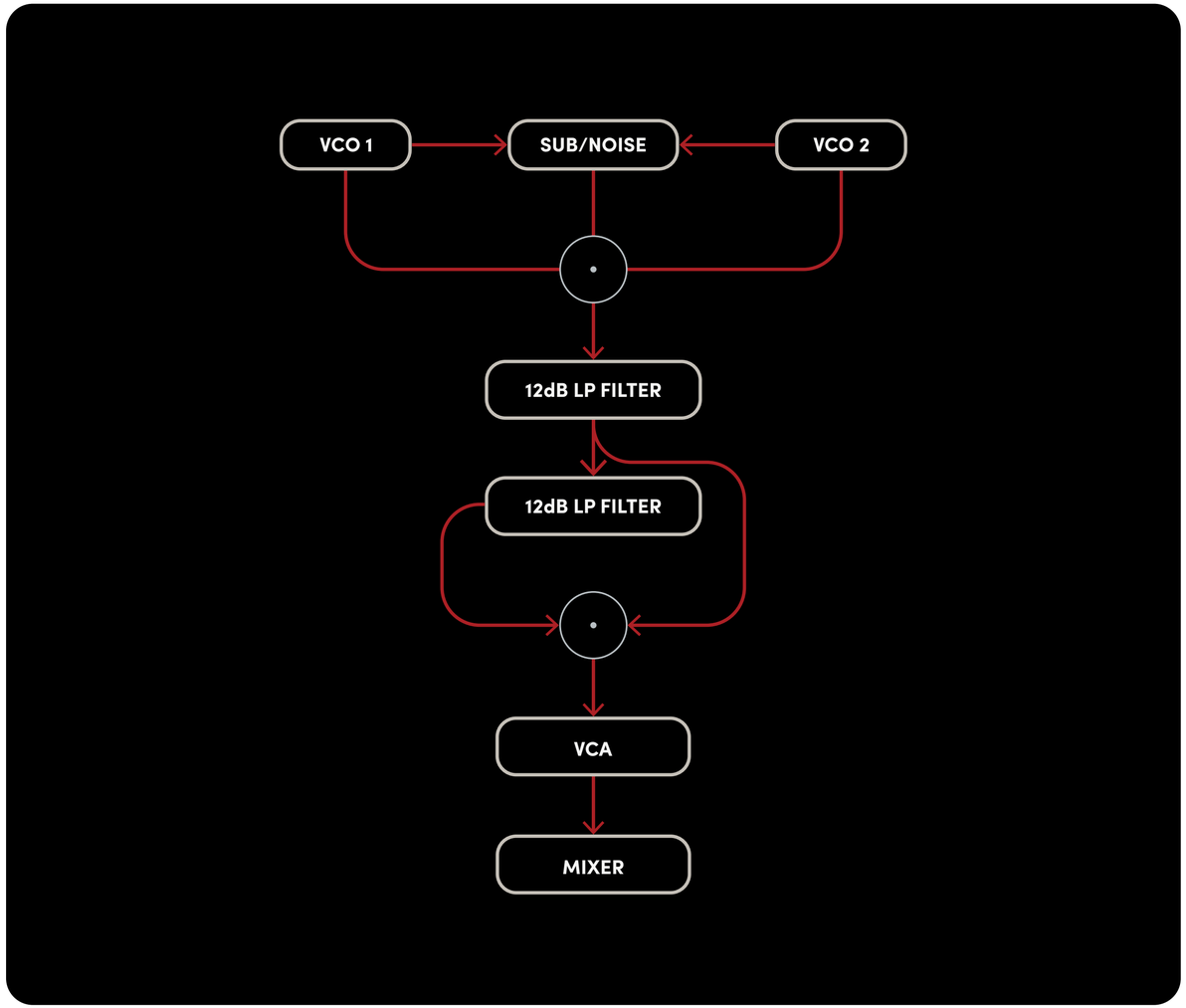
1. **BUTTONS** –
2. **ENCONDER** –
3. **ON SCREEN** –
4. **KNOB** –
5. **SLIDER** –
6. **FEATURE V.1.2** – new

unleash **the wild.**

02 Signal Path

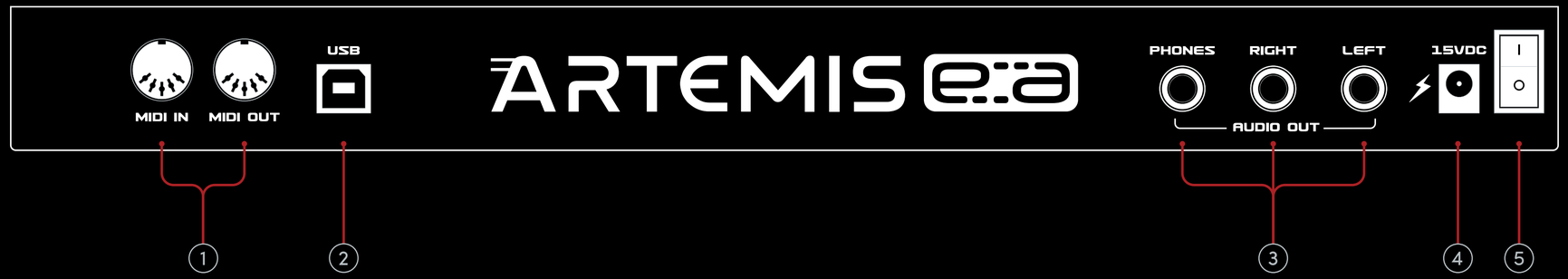


Device signal path



Voice signal path

03 Rear Panel Connections



1. **MIDI**
   IN/OUT MIDI DIN connector for receiving / transmitting MIDI messages from/to an external MIDI device.

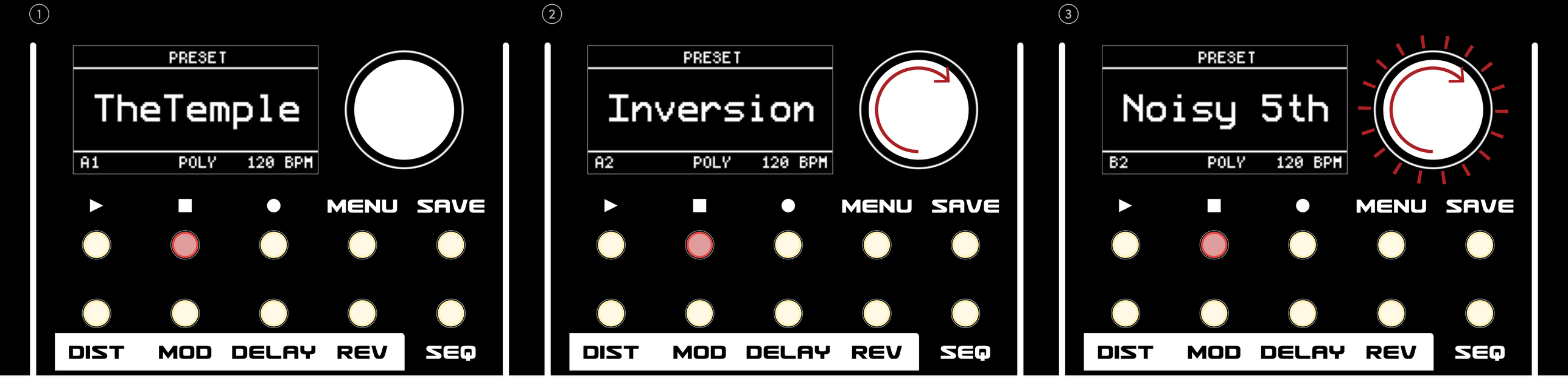
2. **USB**
   This connector allows the Artemis to transmit and receive MIDI messages similar to when MIDI DIN is being used, but also allows firmware updates and preset backup or restore.

3. **AUDIO OUTPUTS**
   Left/Right: Unbalanced, ¼ inch audio outputs.
   Headphones: ¼ inch stereo headphone jack. This jack output has the same sound as the Left/Right outputs and its volume is controlled by the Master Level knob on the front panel.

4. **15VDC Power jack input**
   Please use only the provided power supply.

5. **Power ON/OFF Switch**

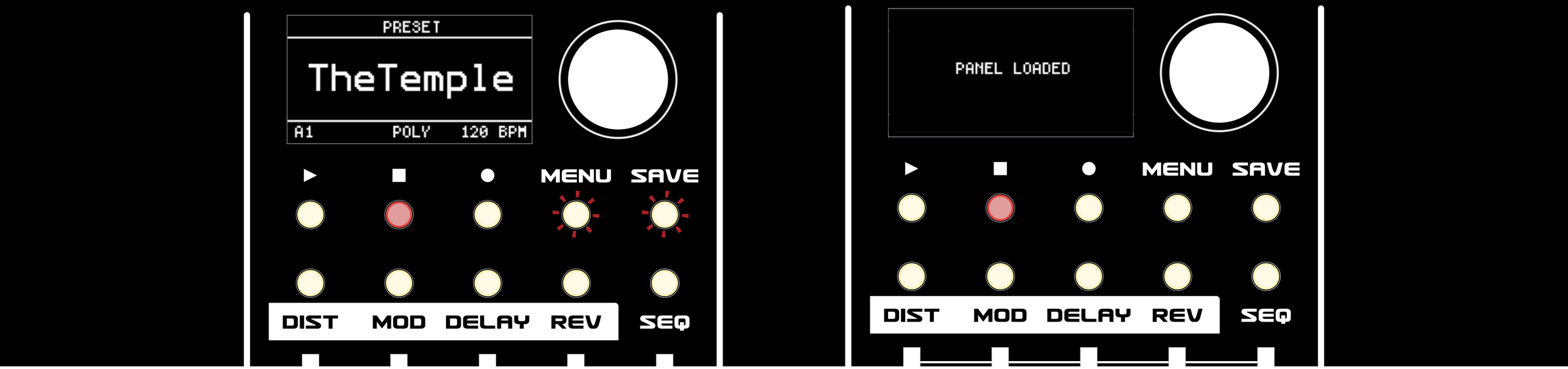
04 Starting with Artemis



Selecting a Preset

The Artemis offers a total of **512 Preset Slots** split in **8 banks** of **64 presets** each.

1. When the synthesizer is turned on, it enters automatically on the Main page.
2. On the Main page, rotating the Encoder cycles through the presets.
3. Pressing the Encoder once will load or reload the preset, depending the LOAD PREVIEW setting. new
4. Pressing and holding down while rotating the Encoder it will cycle through the banks.



Quick Panel Load via MENU and SAVE:

- The sound switches to the current position of the knobs and sliders. The current preset is ignored and the settings that appear on the panel are now the sound that you hear.
- Any modulation routings, FX section settings and sequencer/arp settings will remain unaffected.
- When Panel Load is engaged a confirmation screen will show up to indicate it. new

05 Panel Overview

1. **VCO**
   2 x VCO with 3 waves via continuous waveshaping
   Hard Sync
   Thru-zero FM
   Sub Oscillator
   White Noise source

2. **VCF**
   Resonant Low Pass Filter (12db or 24db)
   Resonant High Pass Filter (12db)
   Filter FM via VCO2 or Noise
   Precision Filter tracking

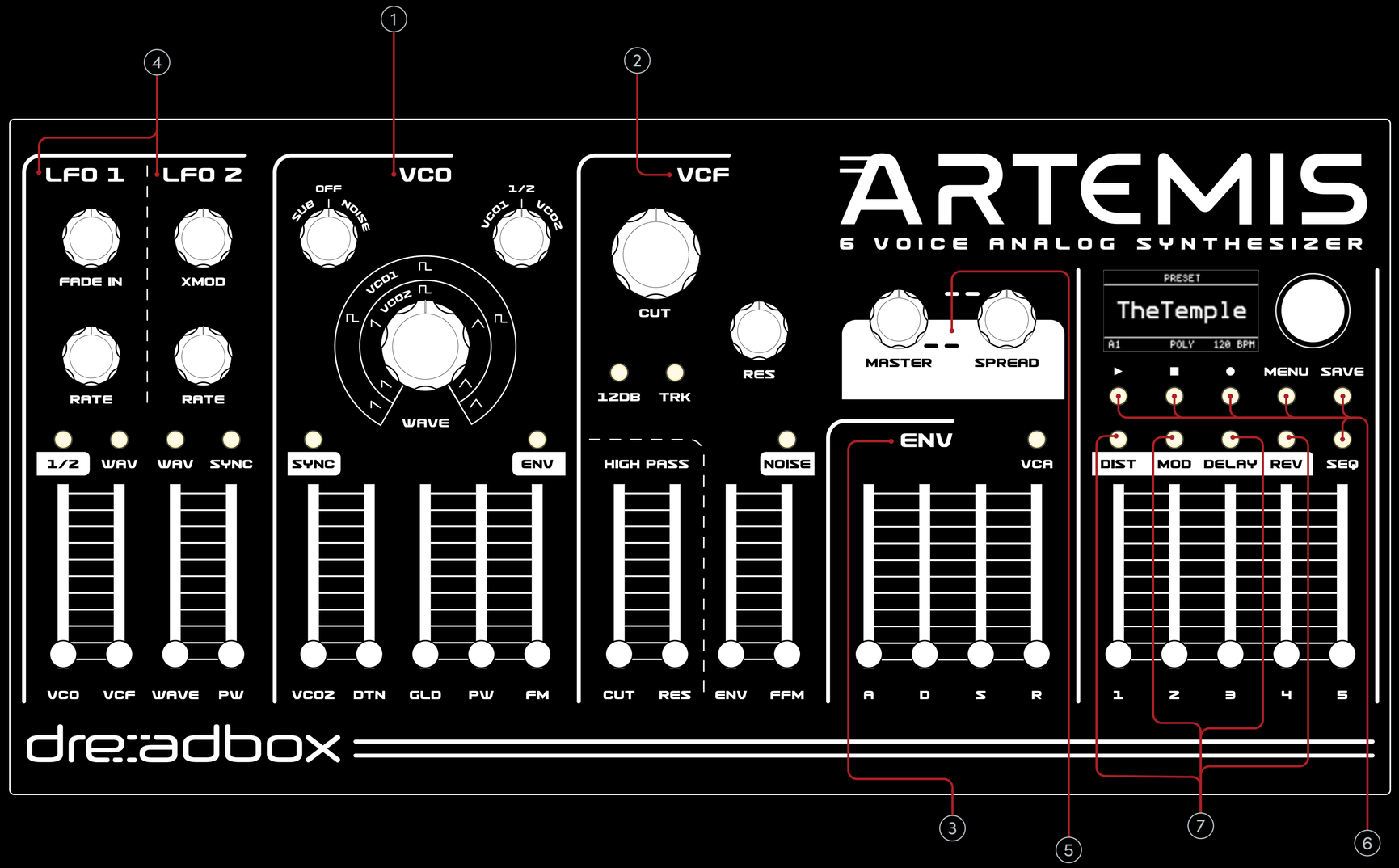
3. **ENVELOPES**
   2 x ADSR Envelopes

4. **LFOs**
   2 x LFOs per voice with 8 waveforms
   Sync and cross-modulation functions

5. **MASTER OUT**
   OTA based VCAs
   Variable stereo panning

6. **ARP/SEQ BUTTONS**
   Arpeggiator with 6 modes and probability function
   Polyphonic Sequencer with probability function

7. **EFFECTS**
   4 Categories of Effects with various algorithms each



06 VCO

1. **WAVE**
Controls continuously the waveform shape of the two VCOs. The positions between the waves blend from Sawtooth to Square to Triangle by giving control of each wave of both VCOs. As a result, interesting waveshaping combinations can be achieved with the use of just a single knob!

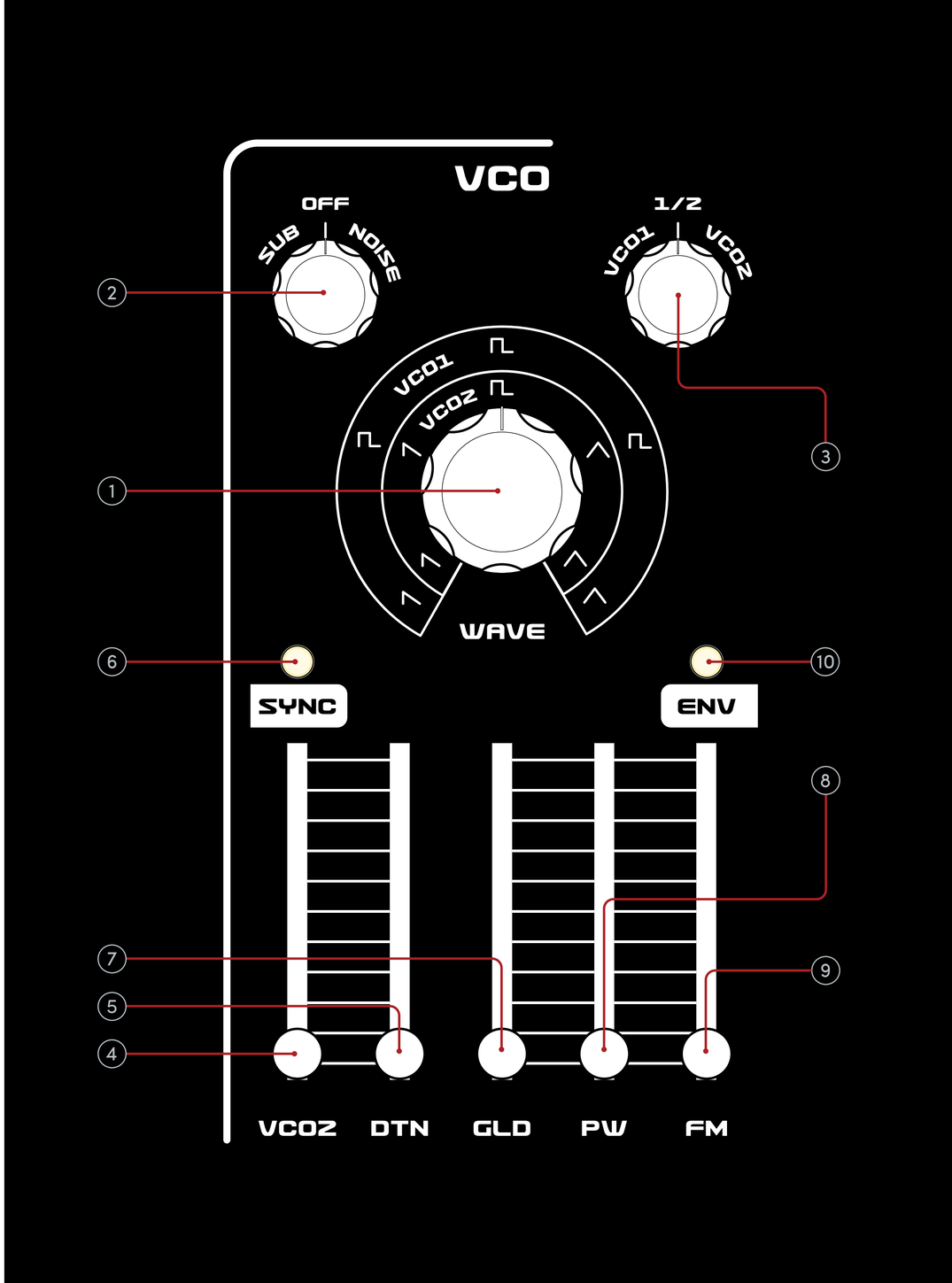
2. **SUB / NOISE Mixer**
Mixes the levels of Sub oscillator and Noise source. Both levels are OFF in the middle position while achieving a maximum level towards the fully CCW or CW positions respectively.

3. **VCO 1 / VCO 2 Crossfader**
Mixes the levels of Oscillator 1 and Oscillator 2. The knob is continuously blending the levels of the two oscillators with an equal 50/50 level at the middle position.

4. **VCO 2**
Controls the pitch of oscillator 2. The pitch is quantized in semitones with a range of ±2 octaves.

5. **DTN**
Detune control for oscillator 2 and master detune for unison. It detunes the intervals between notes, from a slight to a dramatic effect, able to create some incredibly thick sounds.

6. **SYNC**
Sync button activates Hard Sync. When in Hard Sync mode, VCO 2 wave cycle is forced to synchronize to the phase of the wave cycle of VCO 1. SYNC can achieve harmonically complex waveforms, especially when VCO 2 pitch is set higher than VCO 1 pitch.

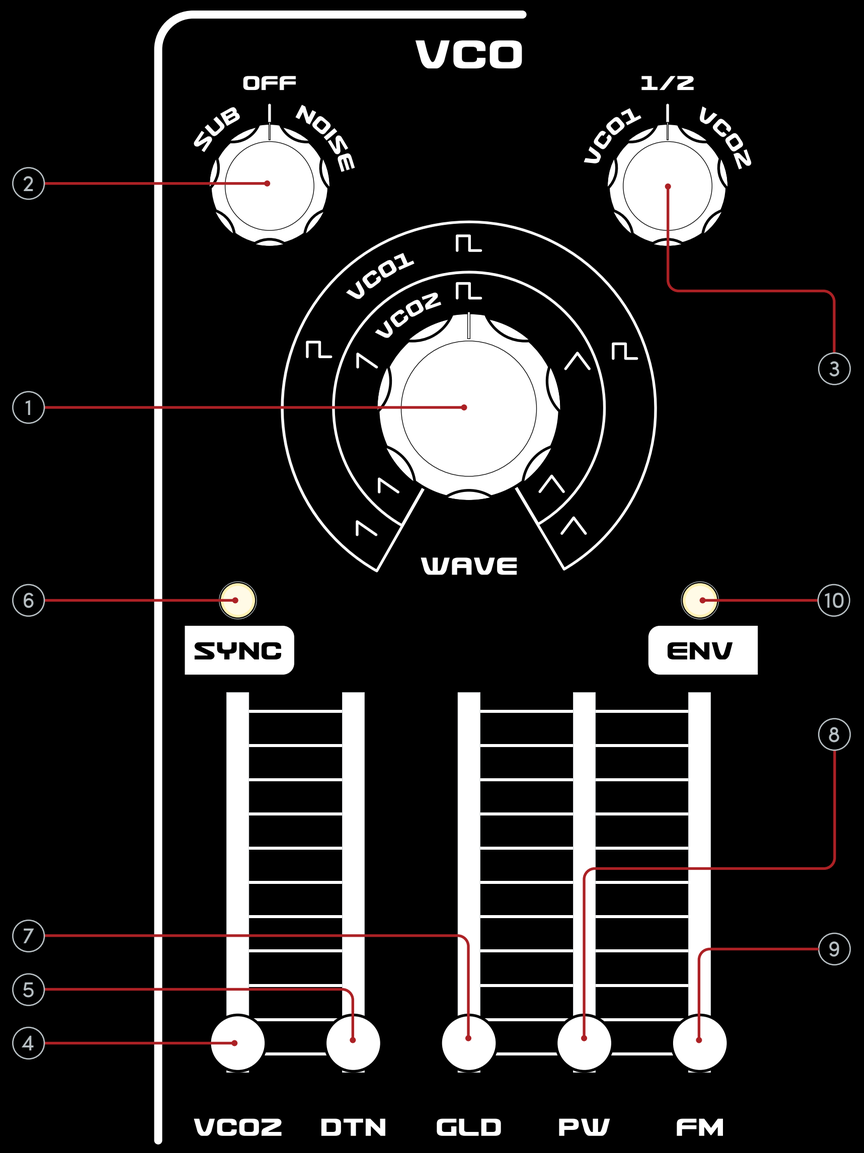


7. **GLD**
Sets the Glide (portamento) amount for both Oscillators. Glide causes the pitch of a note to slide smoothly from the pitch of the previous note, to the new note that is pressed. Artemis supports polyphonic glide and will maintain the functionality across all play modes.

8. **PW**
Sets the pulse-width of both oscillators. A symmetrical square waveform can be achieved when the PW slider is in zero position. The pulse of the square wave is getting narrower while the PW amount is increasing, making the oscillator sound disappear when the PW slider is in maximum position. This can be used as a trick to bypass the oscillators!

9. **FM**
Sets the frequency modulation (FM) amount of VCO 2 to VCO 1. Artemis offers Thru-Zero FM modulation, a type of Linear FM which can produce deep and rich musical timbres while maintaining the pitch tracking.

10. **ENV**
When the ENV button is activated, Envelope is controlling the FM amount. Instead of manually setting the FM amount, it can be modulated from the Envelope section with the FM slider setting the depth.



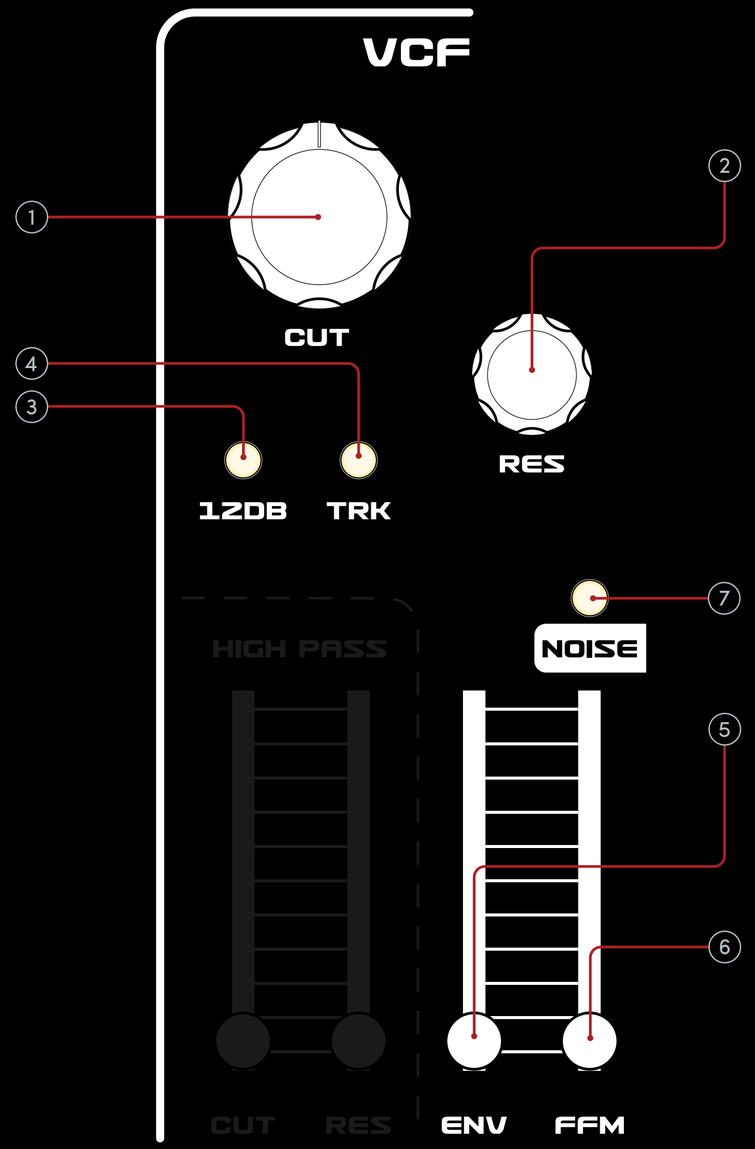
07 VCF

1. **CUT**
Sets the Low Pass Filter's Cutoff frequency. Cutoff is the frequency, above which, the harmonic content of a sound is filtered out. The higher the Cutoff setting, the higher the frequencies that are allowed through the Filter, creating a brighter sound. Filter frequency range is from 20Hz to 20kHz.

2. **RES**
Sets the amount of the Filter's Resonance. Resonance emphasizes the frequency area around the Cutoff frequency. At high Resonance settings, the Filter will self-oscillate and generate its own pitch, which is set by the Cutoff frequency.

3. **12DB**
When activated the Low Pass Filter has a slope of 12db (2-pole) instead of the standard 24db (4-pole). The 12db filter attenuates the signal by 12 decibels per octave past the cutoff frequency. This results in a smoother cutoff response. In comparison, the 24db option has a steeper cutoff response.

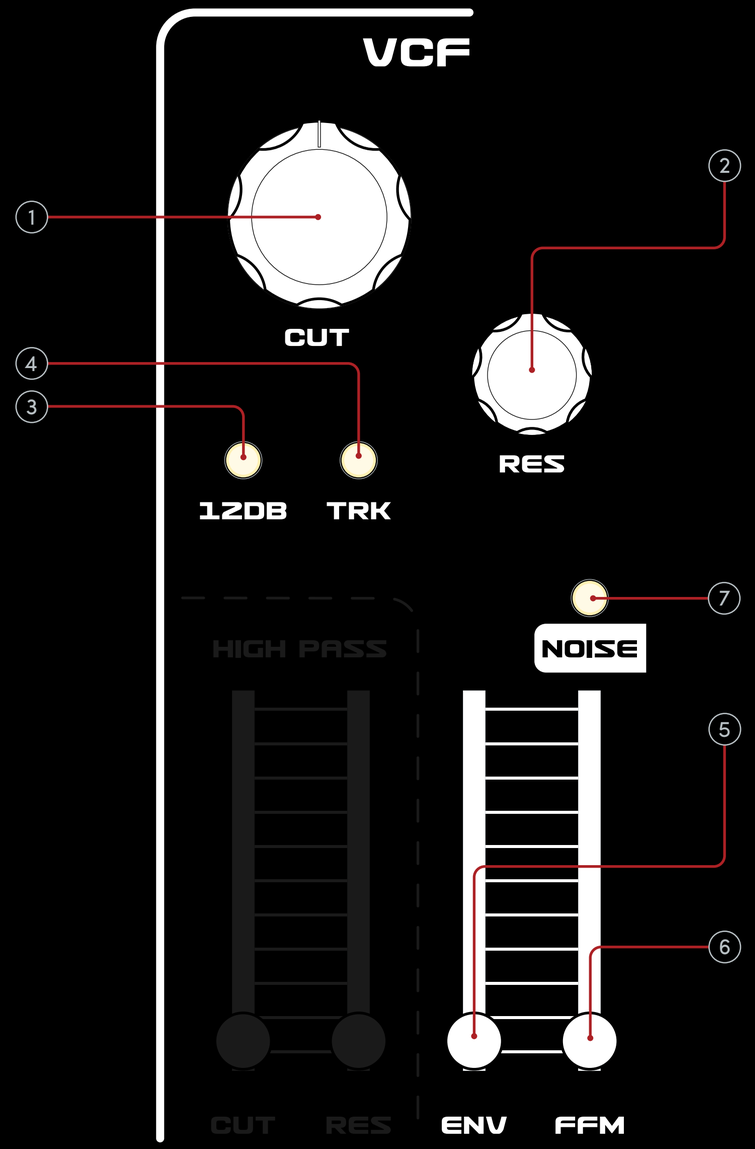
4. **TRACK**
Activates Filter key tracking, which is the modulation applied from the note played on the keyboard to the Filter's Cutoff frequency. By pressing the TRACK button, it cycles through 3 tracking amounts: Zero (LED OFF), Half (LED flashing), Full (LED ON). With Filter key tracking, the higher the notes are played, the brighter the sound will appear, which is a typical characteristic of acoustic instruments. When Full tracking is selected, by setting the Resonance at maximum, it will allow the Filter to be played as an Sine Oscillator and it will track notes.



5. **ENV**
Sets the amount of modulation from the Envelope to the Filter's Cutoff frequency.

6. **FFM**
Sets the amount of frequency modulation (FM) of VCO 2 to the Cutoff frequency. The wave of VCO2 is the one set by the Wave knob and also the SUB/NOISE. This way it can create very complex modulations to the Cutoff frequency.

7. **NOISE**
When activated, instead of VCO 2, the Noise is used as a source to apply FM to the Cutoff frequency.

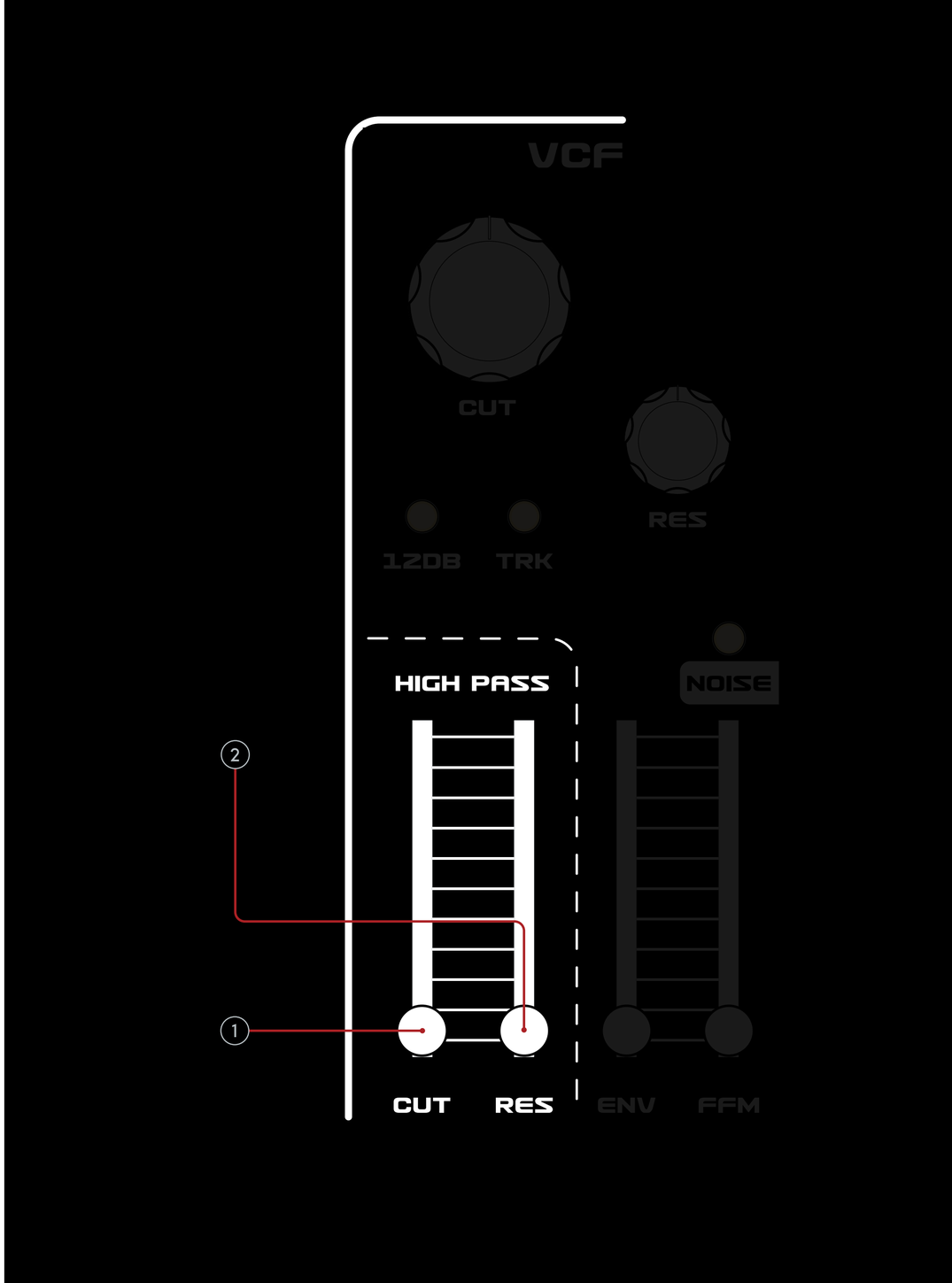


High Pass

> ⚠ *High Pass filter is at the end of the chain of the voices, offering extra control on the harmonic content of the sound.*

1. **CUT**
   Sets the High Pass Filter's Cutoff frequency.

2. **RES**
   Sets the amount of the Filter's Resonance.



08 ENVELOPE

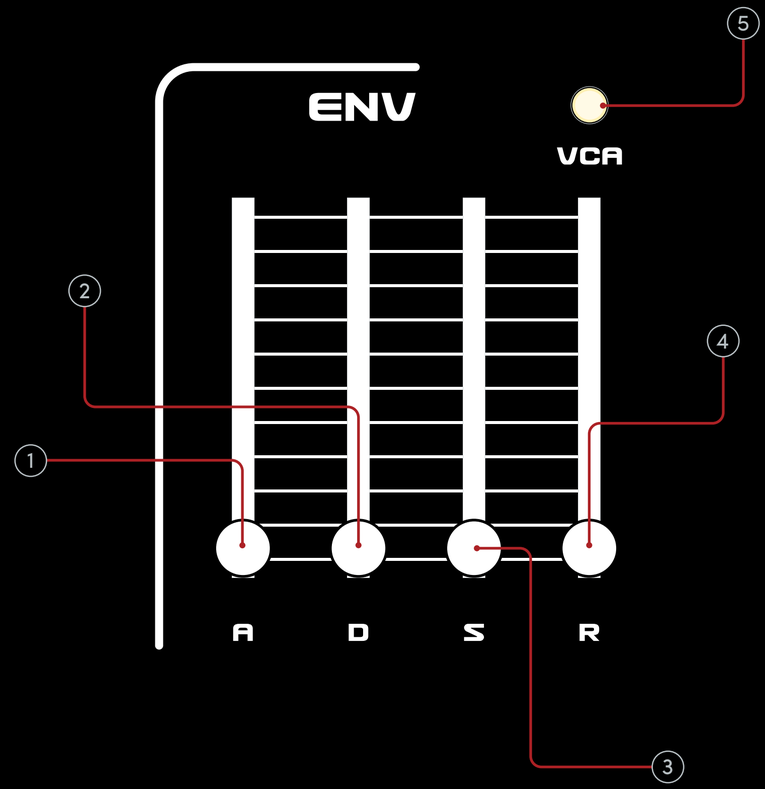
1. **A (Attack Time)**
   It is the time required for the Envelope to rise from zero to maximum level when a note is pressed. The higher the attack time, the longer it takes for the modulated target to rise from the initial value set.

2. **D (Decay Time)**
   It is the time required for the Envelope to fall from its maximum level (end of Attack) to the Sustain Level. The higher the setting, the longer the Decay.

3. **S (Sustain Level)**
   The modulated target will stay at this level as long as a note is held. When the Sustain is set at maximum, the Decay is having no effect.

4. **R (Release Time)**
   It is the time required for the Envelope to fall from the Sustain Level to zero. This controls how quickly the modulated target returns to the initial value from the moment a note is released.

5. **VCA**
   VCA button has three different settings. When OFF you are setting the Envelope which is the one that is modulating the Filter's Cutoff frequency and VCO FM amount. When ON you are on a different page that sets the Envelope that modulates the Amplitude. This Envelope controls the overall volume characteristics of the sound over time. By long pressing the VCA button till it starts flashing, one shared Envelope is used both for Filter's Cutoff frequency and VCA modulation.



09 LFOs

LFO 1

1. **RATE**
   Sets the speed of the LFO 1 from 10 seconds (0.1Hz) up to 25Hz.

2. **FADE IN**
   Sets the time that LFO 1 will take to fade in. When playing a note, Fade In will get triggered and the knob will control the time it needs to reach from zero amount to the maximum amount set.

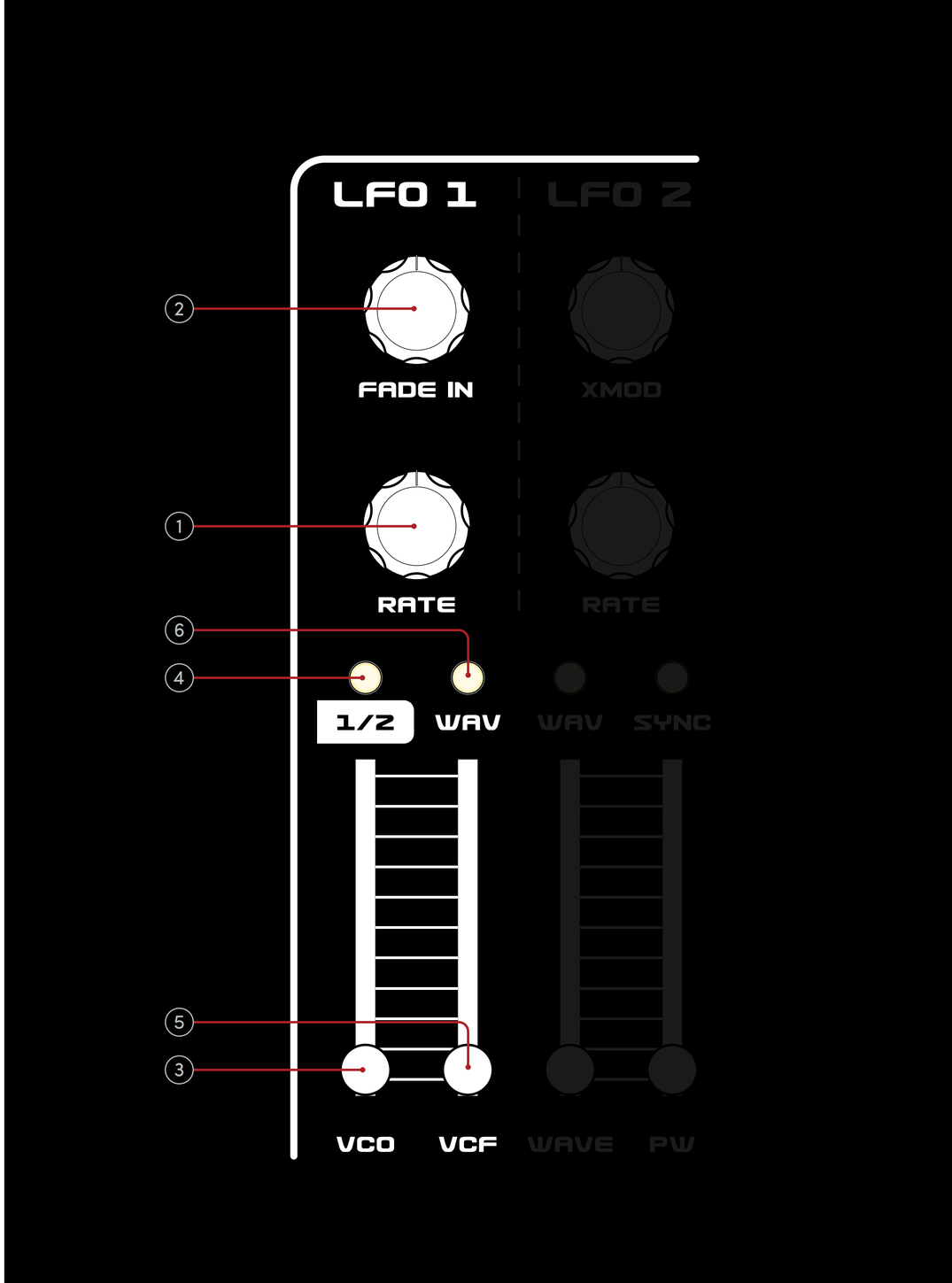
3. **VCO**
   Sets the modulation amount of LFO 1 to the pitch of the oscillators.

4. **1/2**
   The 1/2 button controls if the LFO 1 modulation will be applied to the pitch of VCO 1(LED ON) or VCO 2(LED FLASHING) or both(OFF). It cycles through these three options.

5. **VCF**
   Sets the modulation amount of LFO 1 to the Low Pass Filter's Cutoff frequency.

6. **WAV**
   The WAV button will cycle through the following LFO 1 waveshapes: Sine, Triangle, Saw, Ramp, Square, Random, Env+ and Env-. Wave button indicates LFO shape and rate.

⚠ *Env+ will change the LFO to an Envelope. Everytime a key is pressed the LFO is triggered and it will make a single cycle. In this case Fade In controls the relation between rise and fall of the cycle while the Rate is controlling the time of the cycle. Env- is the inverted cycle of Env+. E.g In order to achieve a single cycle rise on VCO pitch use Env+ WAV, while achieving a drop on the pitch Env- should be used while achieving a drop on the pitch Env- should be used.*



LFO 2

1. **RATE**
   Sets the speed of the LFO 2.

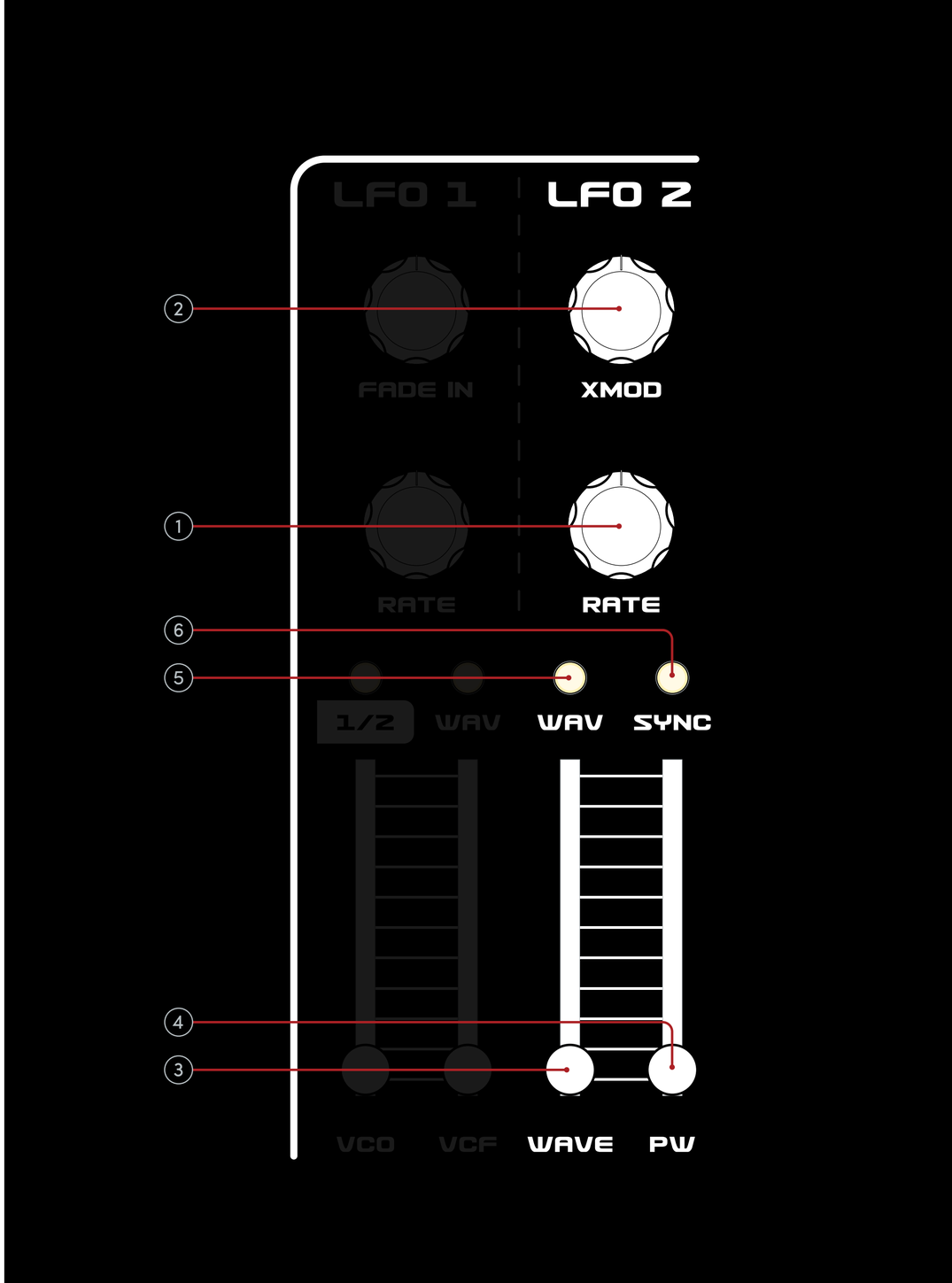
2. **XMOD**
   Sets the modulation amount of LFO 2 to LFO 1 Rate. This is a very useful and unique feature to achieve ratcheting effects and complex cascading rhythm patterns.

3. **WAVE**
   Sets the modulation amount of LFO 2 to the VCOs waveshape (Wave knob).

4. **PW**
   Sets the modulation amount of LFO 2 to the pulse-width of VCO 1 square wave.

5. **WAV**
   The WAV button will cycle through the following LFO 2 waveshapes: Sine, Triangle, Saw, Ramp, Square, Random, Env+ and Env-. Wave button indicates LFO shape and rate.

⚠ *When one shot function Env+ or Env- are selected as a WAV on LFO2, Rate is controlling the time of the cycle which is always a falling cycle.*

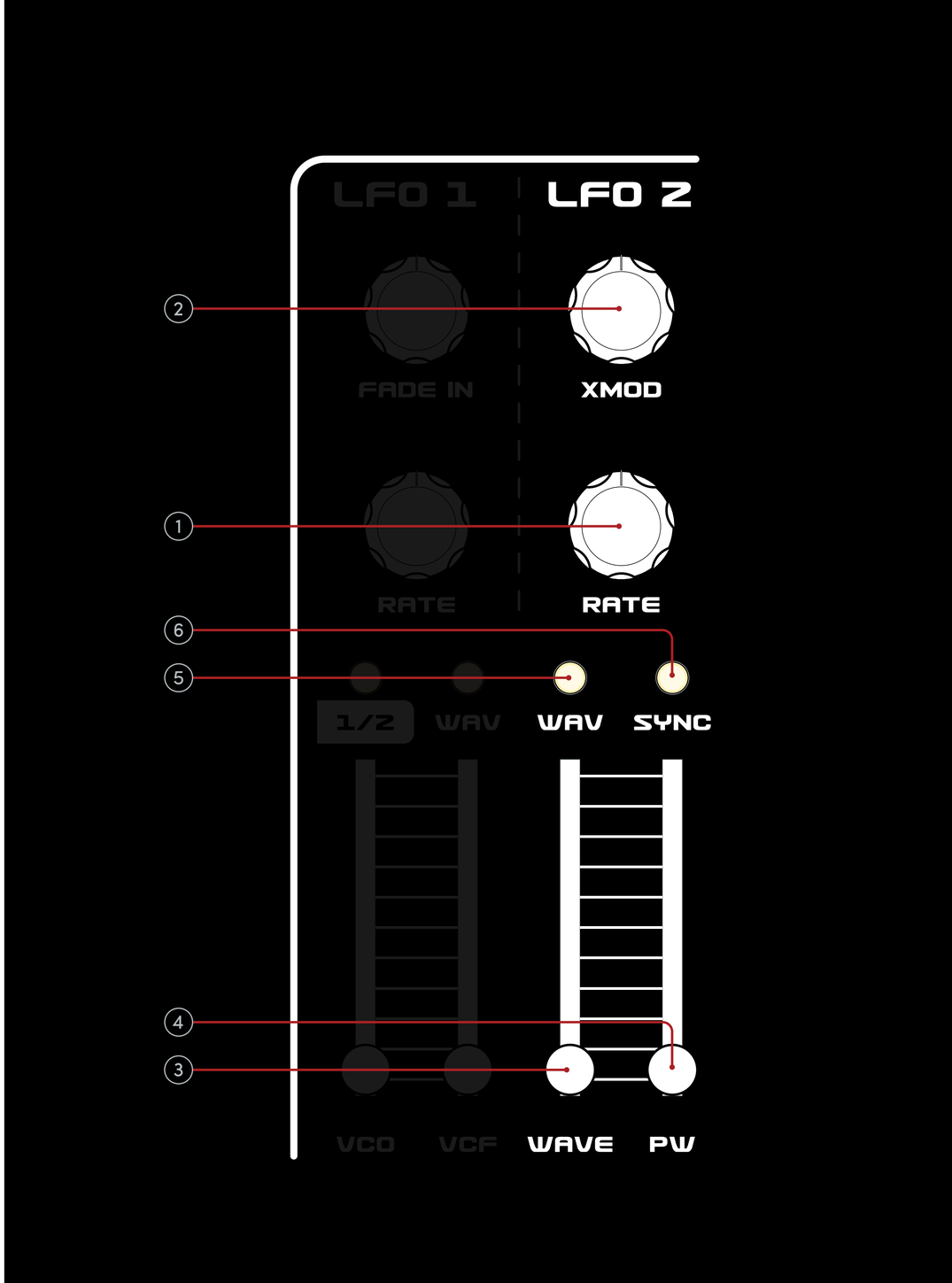


6. **SYNC**
Sync button allows the cycle of both LFOs to be synced.

The button cycles through the following options:

- **Free** - Free running LFO. No sync applied.
- **Key** - The LFO cycle will restart when a new note is played. As the LFOs are polyphonic, this will occur on each independent LFO. For example, if poly LFO is applied to the Filter's Cutoff frequency, playing notes in succession will create an arpeggio-like effect, which will follow the way the notes were played.
- **BPM** - The LFO's speed is synced to an external MIDI clock. The LFO Rate values have the following BPM divisions: x8, x4, x2, x1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64 and their according Triplets and Dotted Divisions. new
- **KEY BPM** - The LFO's speed is synced to a MIDI clock, but also its cycle resets when a new note is played.

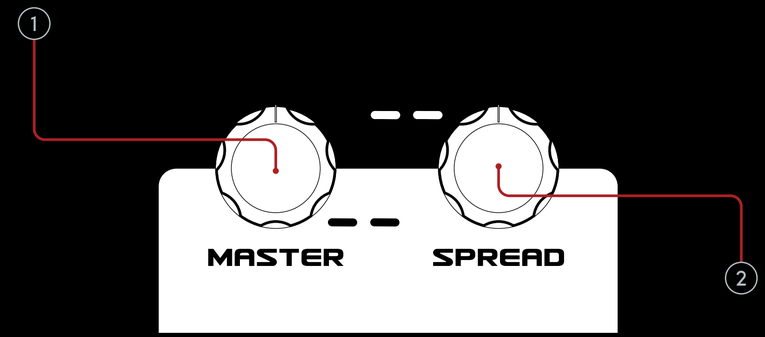
LFO SYNC BUTTTON VISUAL STATES	
OFF	Free-running
BLINKING	Key-triggered
ON	BPM synced
BLINKING (75% on)	BPM + Key-triggered



010 MASTER OUT Section

1. **MASTER**
   Controls the Master Level of the output signal.

2. **SPREAD**
   Controls the amount of the Stereo Spread by spreading the voices on the Stereo Spectrum. The voices are split to odd and even on the Stereo Spectrum. So, voices 1,3,5 are set to the left channel and voices 2,4,6 are set to the right channel. When SPREAD is set at zero all voices are mixed to both left and right channels.



011 BUTTONS

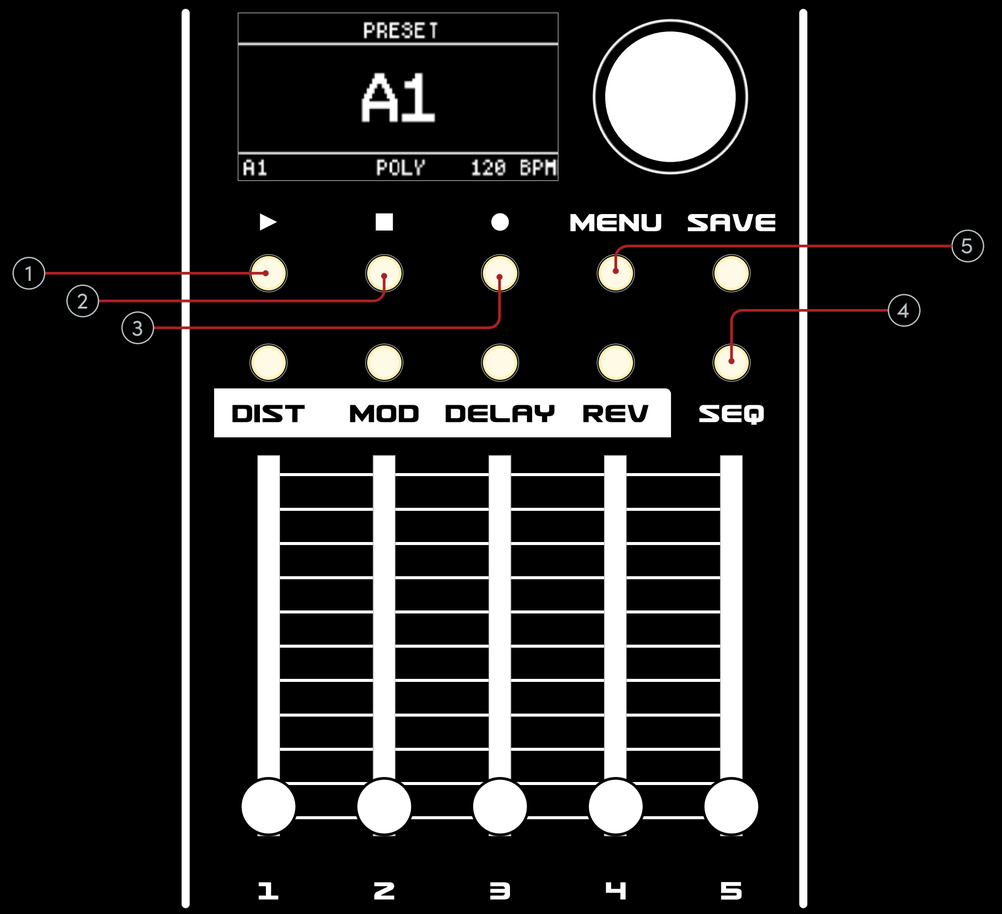
1. ## PLAY BUTTON
Pressing the PLAY button starts/pauses the clock of Artemis. The Play button flashes according to the Tempo rate. The Clock sets the Tempo of the Sequencer and Arpeggiator, as well as the Sync function of the LFOs.

2. ## STOP BUTTON
Pressing the STOP button stops the clock of Artemis. Pressing the STOP button twice resets the Sequencer to the first step as well as it clears any notes pressed (all notes off message). A quick double tap of the STOP button will trigger an All Sounds Off event to clear any effect tails. new

3. ## REC BUTTON
The REC button is active only when the Sequencer or the Arpeggiator is On. Pressing the REC button while being on any other page (e.g effects page) shows the REC page.

4. ## SEQ BUTTON
The SEQ button cycles between two sections, the Arpeggiator and the Sequencer. First press navigates to the active (ON) section, second press the inactive (OFF) section while a third section will navigate back to the main page.

5. ## MENU BUTTON
The MENU button enters the MENU page (see MENU PAGE section). You can view the current value of any panel parameter (knobs, sliders, buttons) without modifying it by holding down the MENU button and moving its corresponding control on the main panel. new



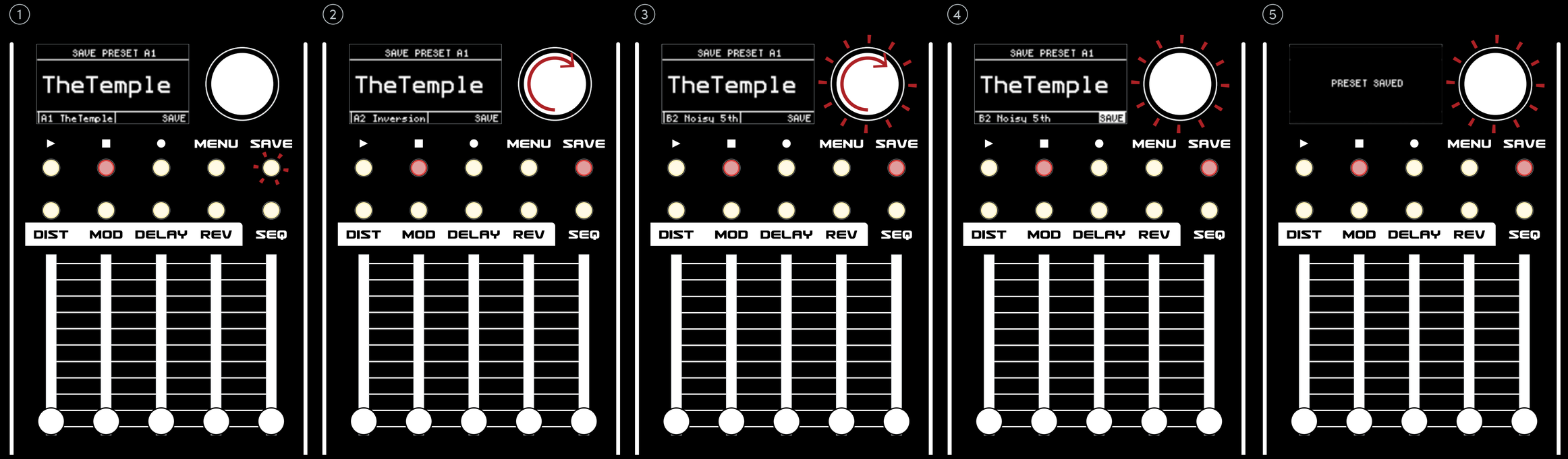
012 SAVE

SAVE

Saving Workflow

1. Press SAVE once to open the page.
2. Turn the Encoder to choose a slot (bottom-left corner).
3. Press and turn the Encoder to cycle through banks.
4. Press the Encoder to confirm the slot and the highlight moves to the SAVE option.
5. Pressing the Encoder again will save the preset and a confirmation will appear on the screen to indicate it and then exit the page. new

> ⚠ *Alternatively, turning the Encoder at this point will allow you to freely move between editable elements: name characters, save slot, and the SAVE button.*



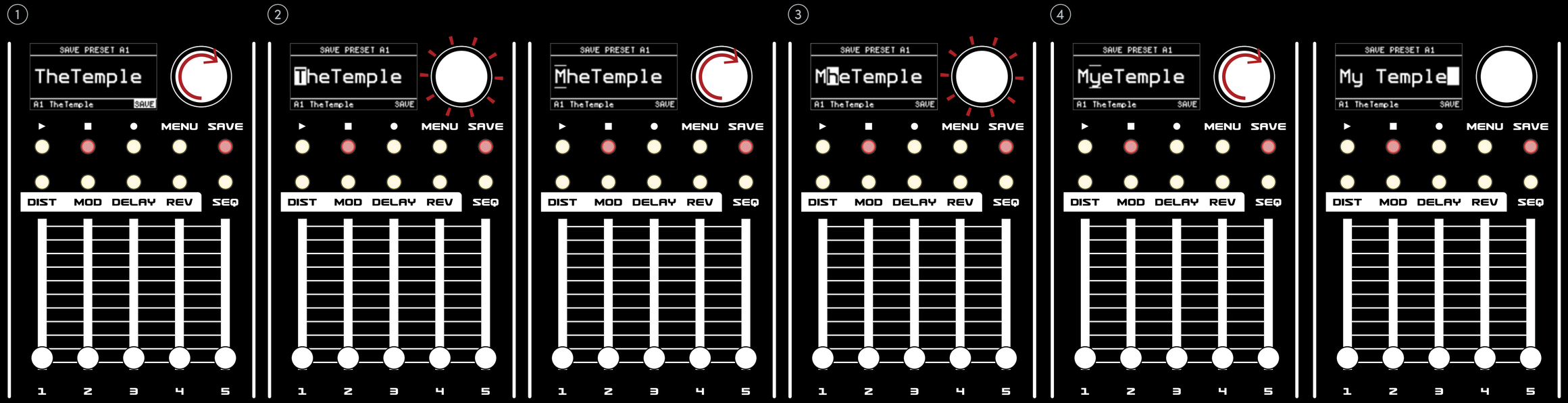
Renaming Presets

1. Turn the Encoder to highlight character(s), save slot, or SAVE button.
2. Press the Encoder to edit a character:
   - Rotate to switch between: Uppercase, Lowercase, Numbers, Symbols, and Blank Space.
   - Quick-skip: Press and turn the Encoder to quickly jump between character categories.
3. Press the Encoder again to confirm your choice.
4. Continue the same steps until you've entered the full name of your choice.

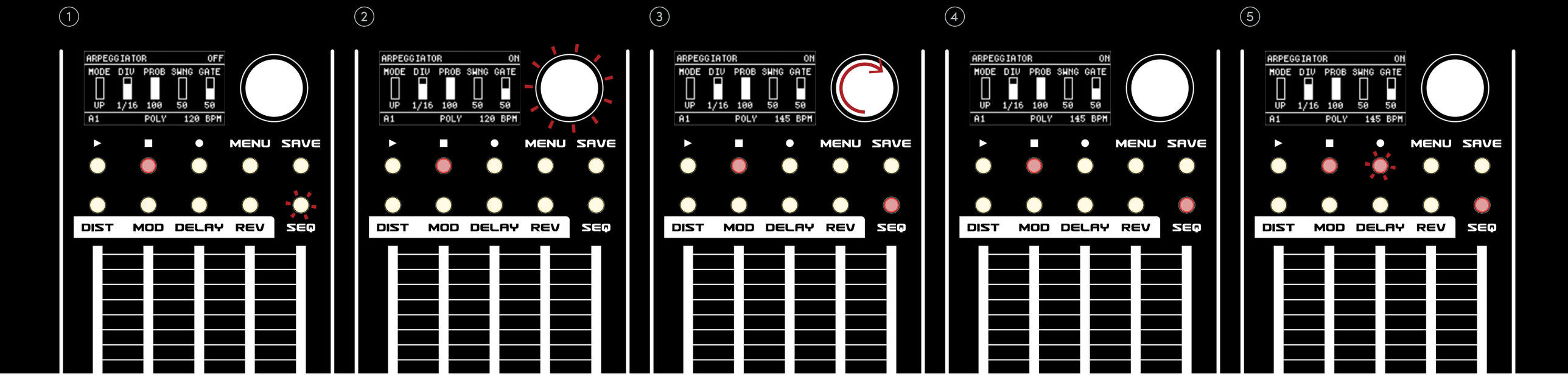
⚠ **Quick Save Tip** *to save without renaming or changing the slot*

new

- *Long press SAVE (2s) to instantly save the preset.*
- *A confirmation screen will show up to indicate it.*



013 ARPEGGIATOR



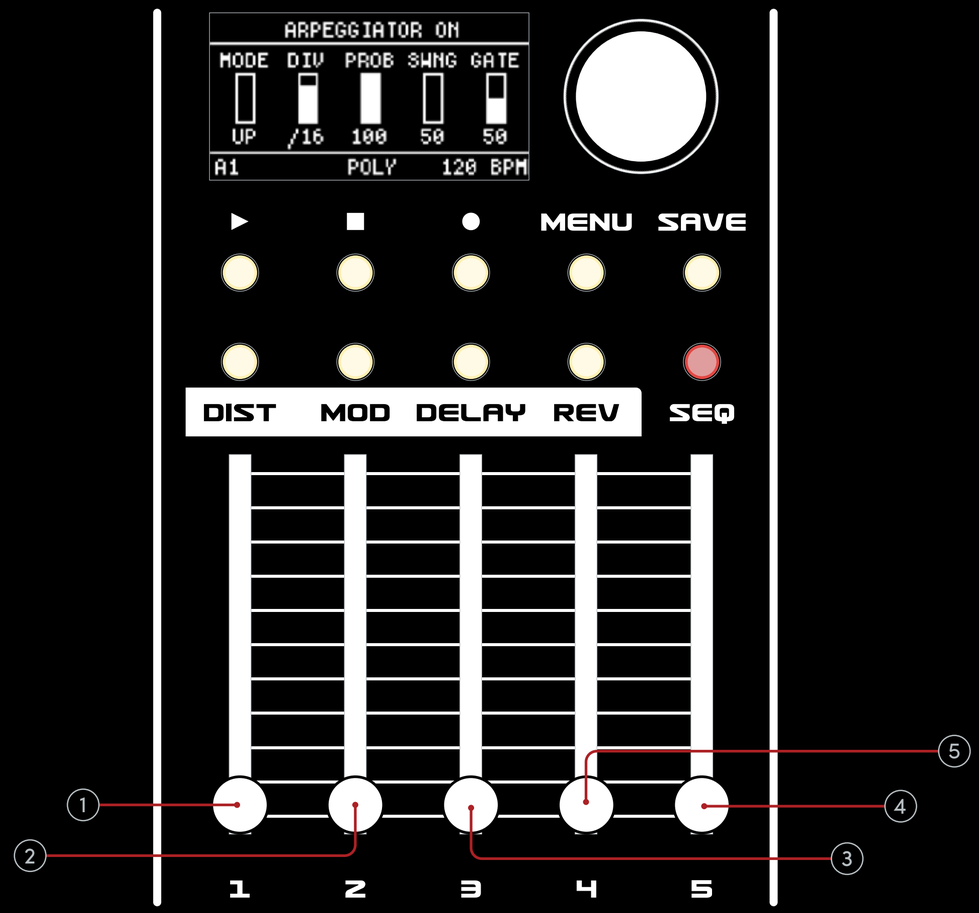
1. To access the Arpeggiator page click the SEQ button.
2. Pressing the Encoder will turn on/off the Arpeggiator.
3. Rotating the Encoder will set the tempo (BPM). When an external Midi clock is received, Arpeggiator will sync to that tempo (Clock Receive should be activated).
4. When Arpeggiator is On, while holding a chord on a keyboard, Artemis plays a pattern based on the individual notes held one after the other. While you hold down a chord, pressing and holding any additional notes will add those notes to the arpeggio. You can change notes and the arpeggiator will continue to play as long as at least one note is always held.
5. Pressing the REC button while holding the keys will work as a hold function meaning that the arpeggiator will continue to play notes after releasing the keys.
6. The arpeggiator can hold up to 32 notes. new

ARPEGGIATOR PARAMETERS

MODE

1. Slider 1 is choosing between the following playback modes:

- **UP**
  Arpeggiator will play in order from the highest to the lowest note.
- **DOWN**
  Arpeggiator will play in order from the highest to the lowest note.
- **ORD**
  Arpeggiator will play notes in the order the keys were pressed.
- **INC**
  Arpeggiator will play in order from the lowest to highest note, then from the highest to the lowest, repeating the high note and low note.
- **EXC**
  Arpeggiator will play in order from the lowest to highest note, then from the highest to the lowest, without repeating the high note and low note.
- **RND**
  Arpeggiator will play notes in random order.



DIV

2. Slider 2 adjusts the Time Division which allows to change the rhythmic relationship of the arpeggiator relative to the tempo.

   You can set values like quarter notes (1/4 - one step per beat), eighth notes (1/8- two steps per beat), Triplet values (1/2T, 1/4T, ...) or Dotted values (1/2., 1/4., ...). new

PROB

3. Slider 3 adjusts the Arppeggiator probability amount which is how likely it is that the held notes will play.

   Probability values vary from 0% (none of the held notes will play) to 100% (all the held notes will play).

SWNG

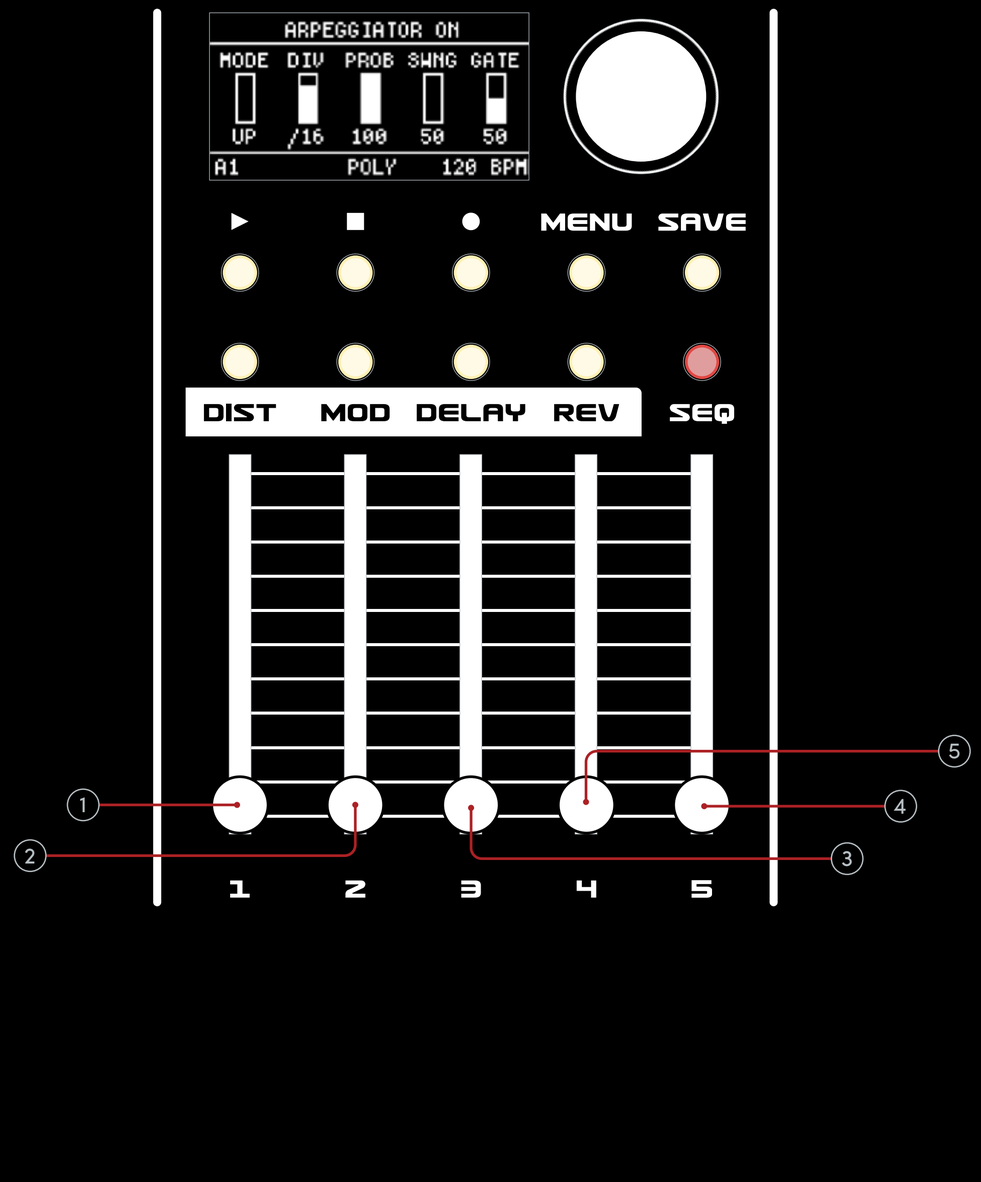
4. Slider 4 adjusts the Swing amount which adds a shuffle effect on the Arpeggiator by slightly delaying alternate notes.

   Swing values vary from 50 (no swing, straight timing) to 75.

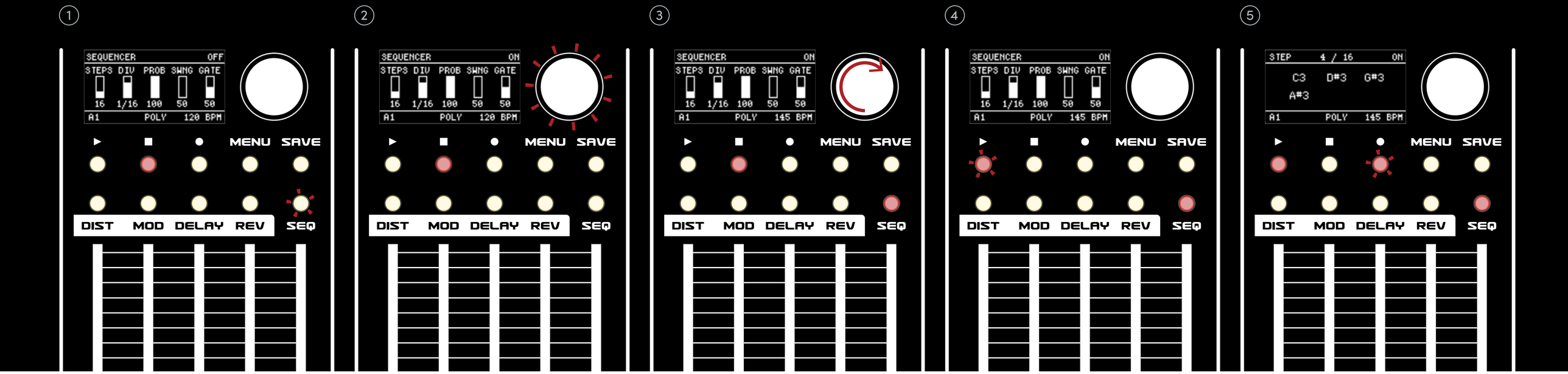
GATE

5. Slider 5 adjusts the Gate length of the notes.

   Lower values will create a more staccato effect while higher values have a longer gate time.



014 SEQUENCER

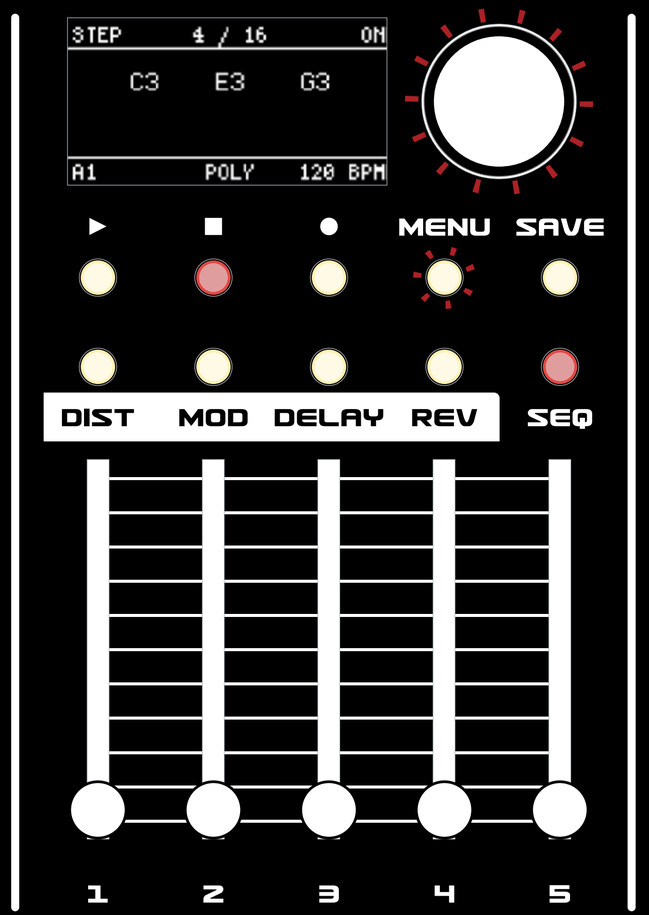


1. To access the Sequencer page click the SEQ button.
2. Pressing the Encoder will turn on/off the Sequencer.
3. Rotating the Encoder will set the tempo (BPM).
4. When an external Midi clock is received, Sequencer will sync to that tempo (Clock Receive should be activated).
5. When Sequencer is On, you can press the Rec button to enter the REC page and start recording a sequence. While you are on any page (e.g effect page), clicking the Rec navigates to the REC page . The sequencer step page shows in real time the state of each step (tie/rest) and the notes corresponding to each step. You can play and record up to 6 notes per step. When all the played notes will be released, the sequencer will progress on the next step. When the maximum of 6 notes played per step, any additional played notes will be ignored.

The Encoder functions in REC mode when the sequencer is stopped (Stop Button Lit) or running (Play button flashing):

- When the sequencer is stopped, you can scroll through the steps by turning the encoder.
- If no notes are held on a keyboard:
    * Pressing and releasing the Encoder sets a rest on the current played step and it progresses to the next step while erasing any previously recorded notes.
    * Sequencer stopped: Pressing and holding down while turning the Encoder clockwise quickly sets rests on all the steps that you scroll through.
    * Sequencer running: Pressing and holding down the Encoder sets rests in all the played steps.
- If holding notes on a keyboard:
    * Sequencer stopped: Pressing the Encoder sets a tie and it progresses to the next step. If you turn the Encoder while holding notes it quickly sets ties to all the steps that you scroll through. Holding the Encoder down while you do so, sets the same notes in all steps scrolled through but they will play in staccato instead of tie.
    * Sequencer running: Pressing the Encoder records ties in all the steps played. Holding the Encoder down will set them to staccato instead of ties. This is a quick way to record a staccato chord in several steps instead of playing the same notes on each different step.
- Pressing MENU and Encoder will toggle the state of a step from ON to TIE and vice versa. new

⚠ *When the clock is running the song position is shared across the presets which results in a smooth transition of the sequencer between presets. For example, when the sequencer is running on a 16 step length preset, change the preset while on the 8th step. The new loaded preset will start running from the 8th step instead of resetting to the 1st step in order to maintain song position.*



SEQUENCER PARAMETERS

STEPS

1. Slider 1 selects the step length of the sequencer (1-64 steps). DIV

DIV

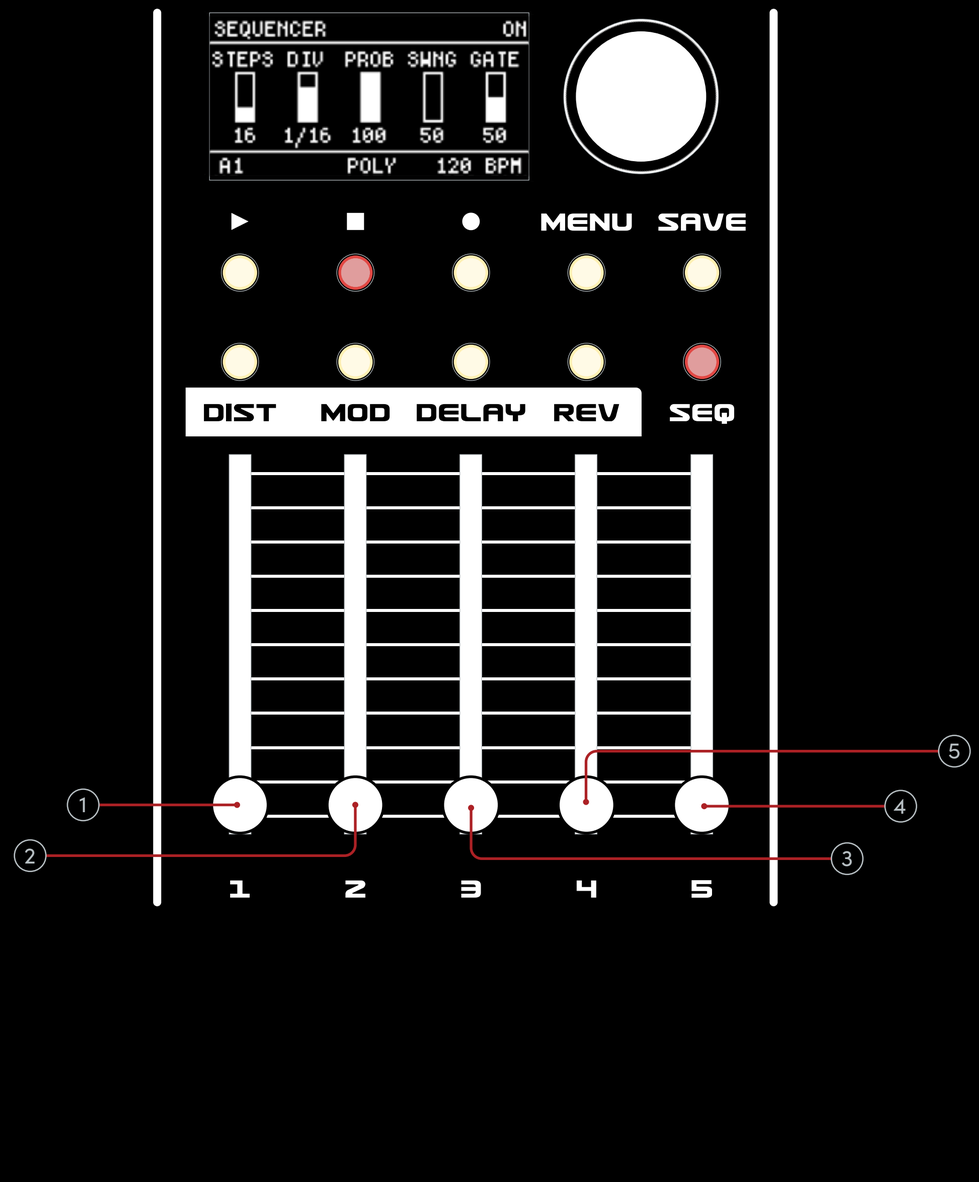
2. Slider 2 adjusts the Time Division which allows to change the rhythmic relationship of the sequencer relative to the tempo.

   You can set values like quarter notes (1/4 - one step per beat), eighth notes (1/8- two steps per beat), Triplet values (1/2T, 1/4T, ...) or Dotted values (1/2., 1/4., ...). new

PROB

3. Slider 3 adjusts the Sequencer probability amount which is how likely the recorded sequencer on each step will play.

   Probability values vary from 0% (none of the recorded steps will play) to 100% (all the held notes will play).



SWNG

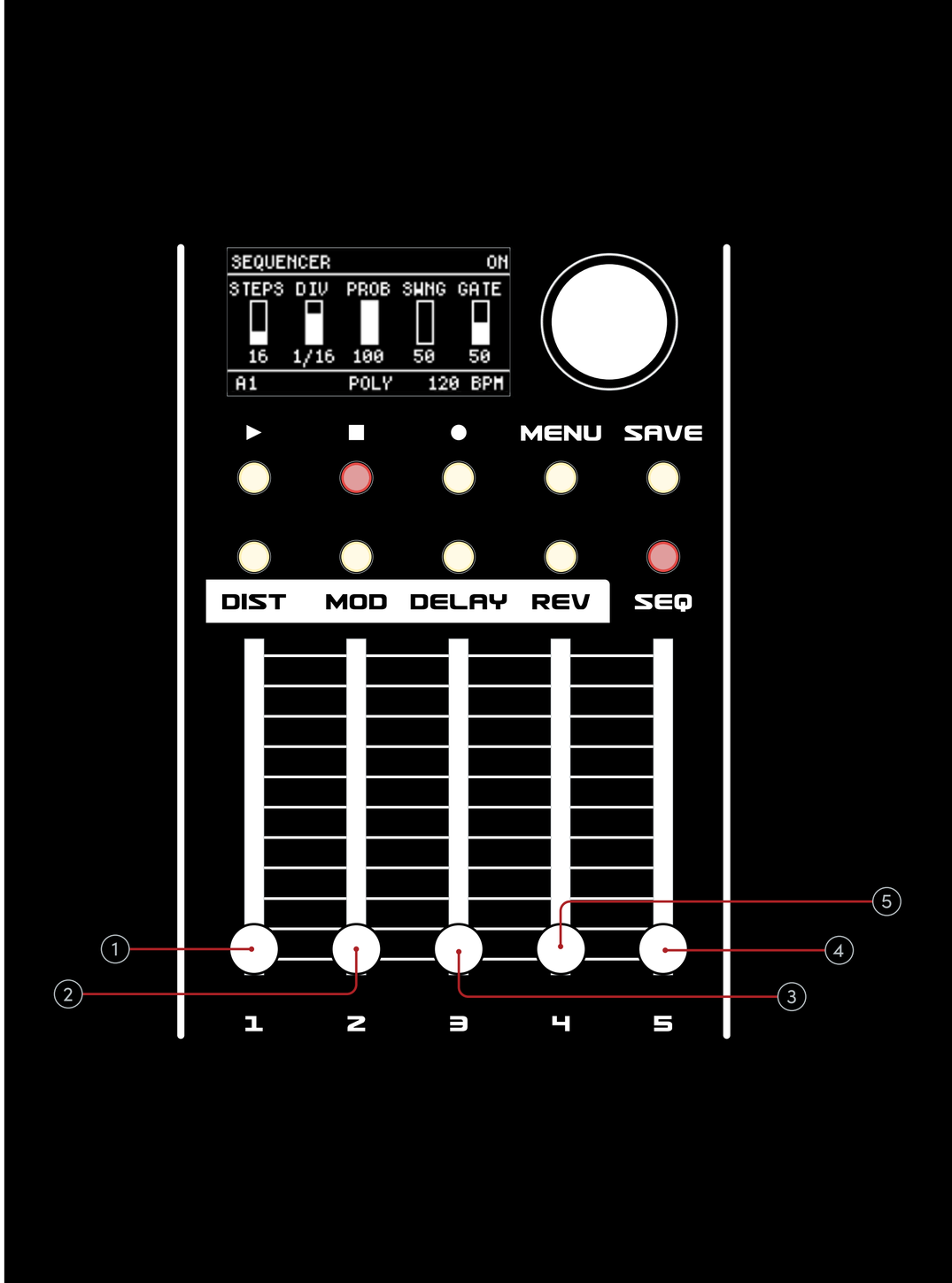
5. Slider 4 adjusts the Swing amount which adds a shuffle effect on the Arpeggiator by slightly delaying alternate notes

   Swing values vary from 50 (no swing, straight timing) to 75.

GATE

6. Slider 5 adjusts the Gate length of the notes.

   Lower values will create a more staccato effect while higher values have a longer gate time.

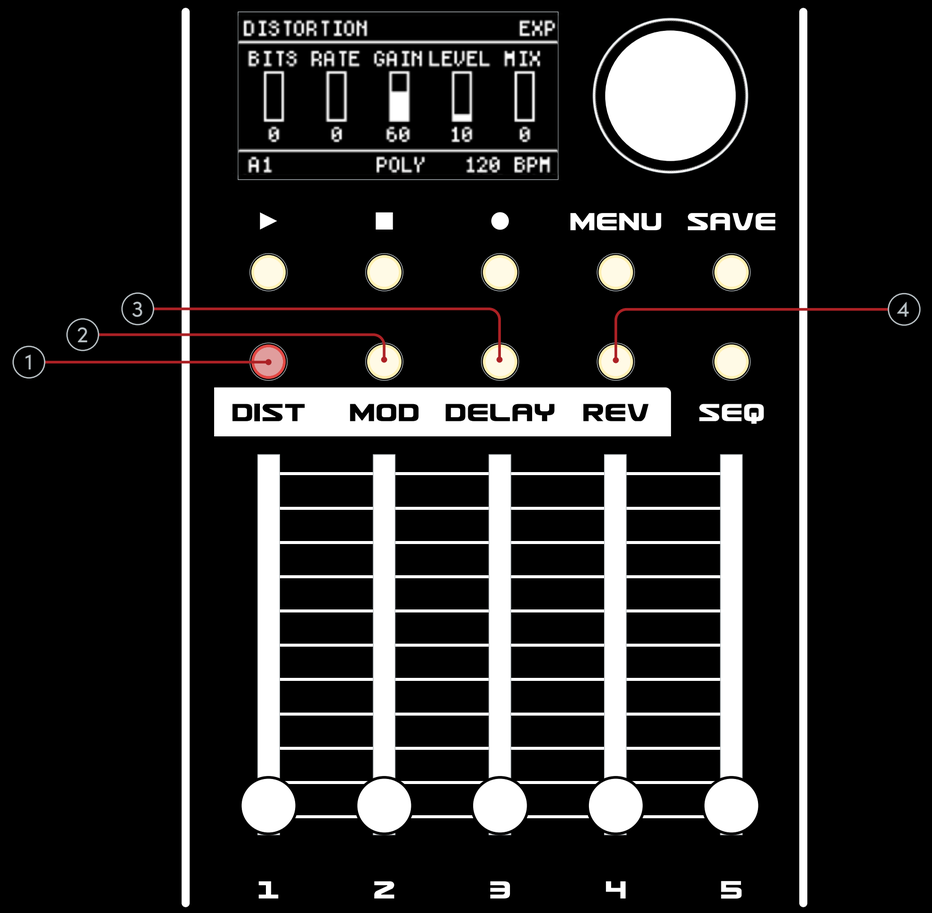


015 EFFECTS

Artemis offers **4 categories** of effects in series:

1. **Distortion** – DIST
2. **Modulation** – MOD
3. **Delay** – DELAY
4. **Reverb** – REV

You can access each effect page by pressing the relative effect button. The 5 sliders are used to set the parameters of each effect as seen on the screen. Turning the encoder will cycle through the different algorithms of each effect page.



Distortion Effects

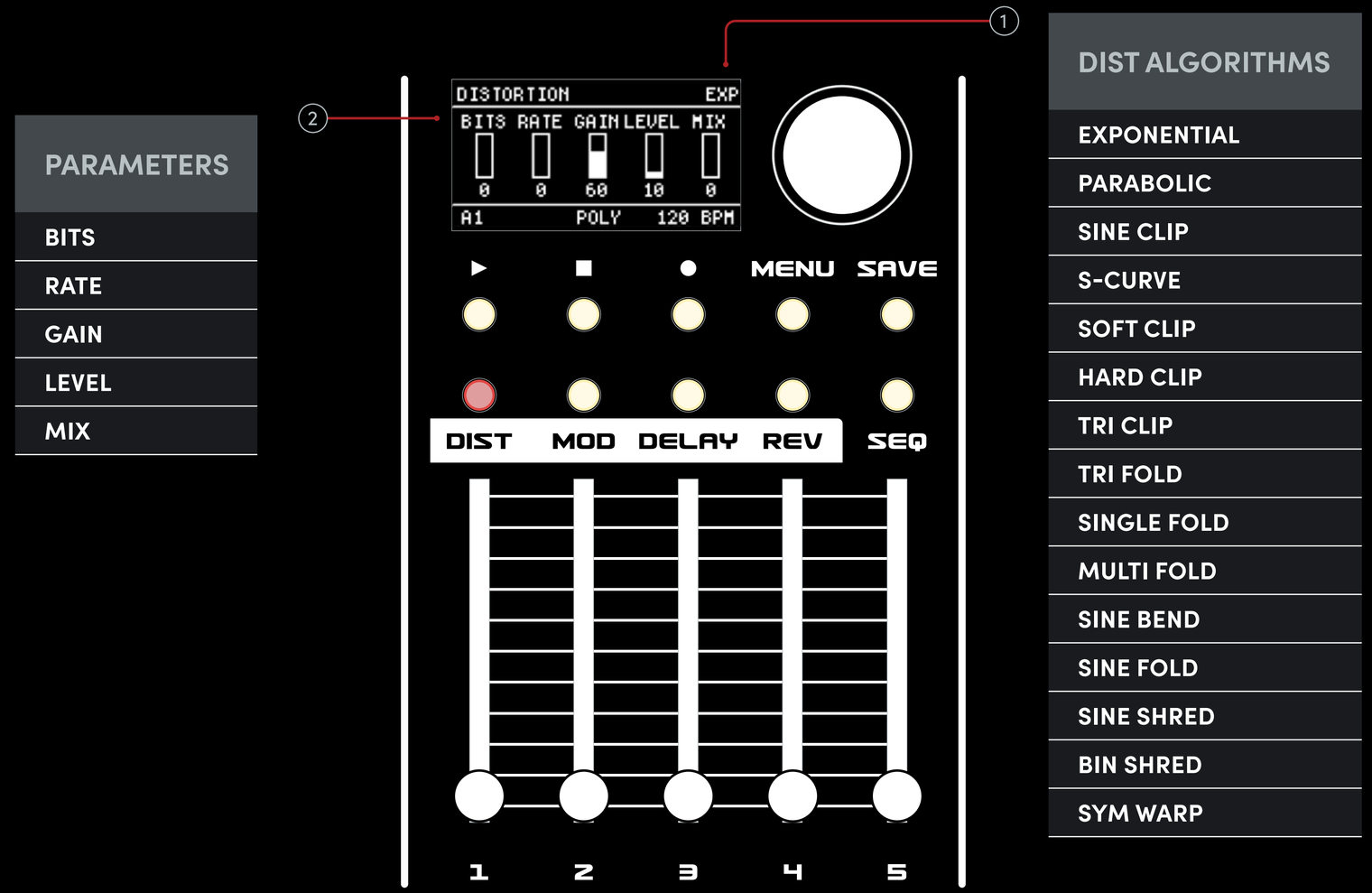
DIST page offers multiple distortion, overdrive, wavefolding and shredding algorithms with 2x oversampling, and additional bit depth and sample rate reduction to create digital aliasing and resolution artifacts.

1. Algorithms

Exponential, Parabolic, Sine Clip, S-Curve, Soft Clip, Hard Clip, Tri Clip, Tri Fold, Single Fold, Multi Fold, Sine Bend, Sine Fold, Sine Shred, Bin Shred, Sym Warp.

2. Parameters

- **BITS** — Amount of bit depth reduction.
- **RATE** — Amount of sample rate reduction.
- **GAIN** — Distortion gain/boost level.
- **LEVEL** — Distortion output level.
- **MIX** — Balance between Dry and Wet signal.

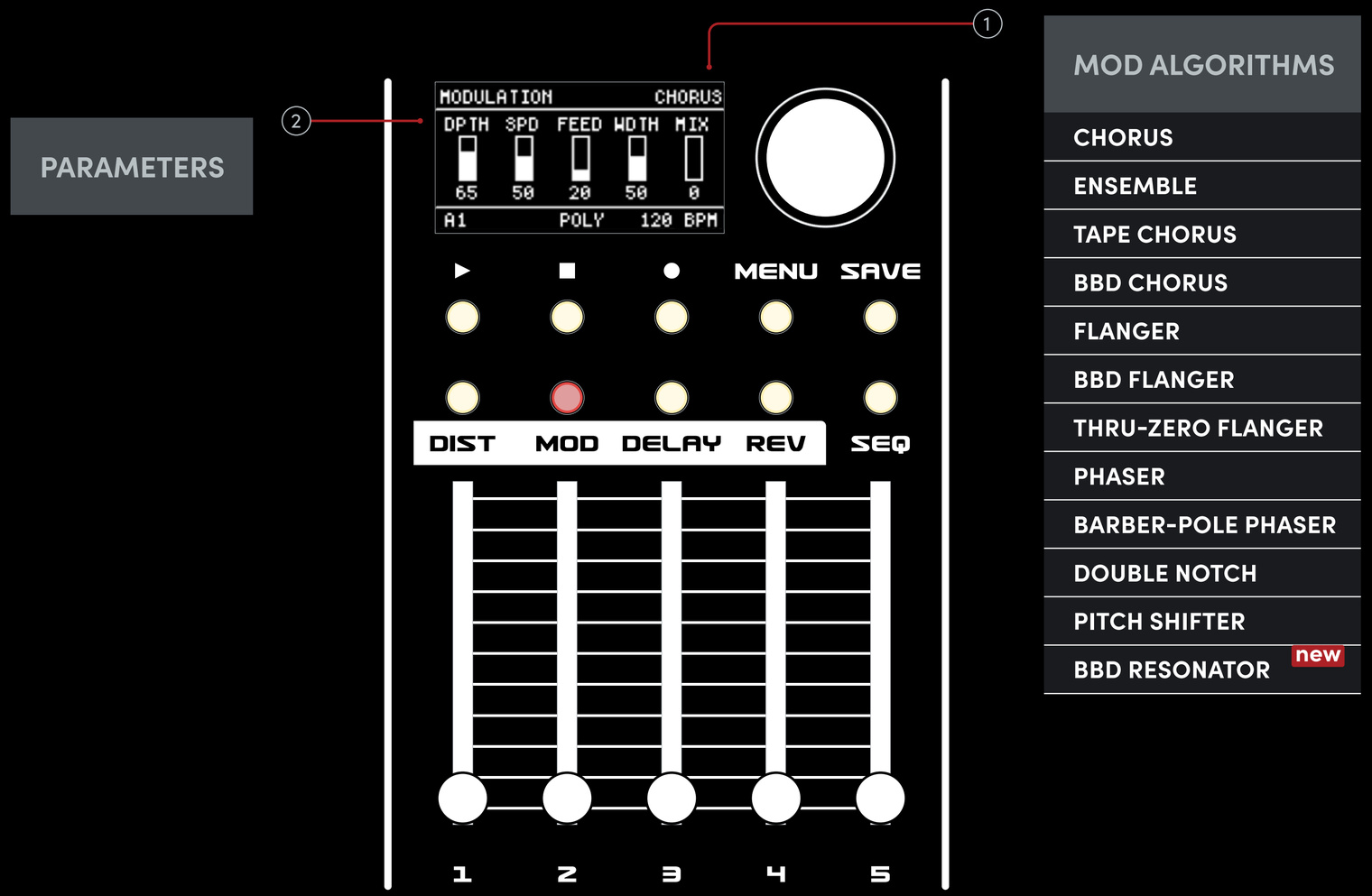


Modulation Effects

1. Algorithms

Chorus, Ensemble, Tape Chorus, BBD Chorus, Flanger, BBD Flanger, Thru-Zero Flanger, Phaser, Barber-Pole Phaser, Double Notch, Pitch Shifter, BBD Resonator.

2. Parameters



MOD ALGORITHMS
CHORUS
ENSEMBLE
TAPE CHORUS
BBD CHORUS
FLANGER
BBD FLANGER
THRU-ZERO FLANGER
PHASER
BARBER-POLE PHASER
DOUBLE NOTCH
PITCH SHIFTER
BBD RESONATOR new

MOD ALGORITHMS	PARAMETERS
CHORUS Classic single-voice chorus.	
ENSEMBLE Lush chorus with three detuned voices.	
TAPE CHORUS Creates pitch wobble inspired by tape machines.	• **DPTH** — Amount of time modulation by the LFO. • **SPD** — LFO frequency. • **FEED** — Feedback amount, increasing the effect's intensity/resonance. • **WDTH** — LFO phase offset between left and right channels, creating stereo spread. • **MIX** — Balance between Dry and Wet signal.
BBD CHORUS Dark and warm Lo-Fi chorus built using variable sample rate technology.	
FLANGER Classic flanger with positive or negative feedback.	
BBD FLANGER Dark and warm Lo-Fi flanger built using variable sample rate technology.	
THRU-ZERO FLANGER Dual-delay flanger with positive or negative feedback	
PHASER Classic 6-stage phaser.	

MOD ALGORITHMS	PARAMETERS
BARBER-POLE PHASER Ultra-smooth phaser with seemingly endless spectrum sweeps.	• **SPD** — Phaser sweep frequency • **FEED** — Feedback amount, increasing the effect's intensity/resonance. • **WDTH** — LFO phase offset between left and right channels, creating stereo spread. • **MIX** — Balance between Dry and Wet signal.
DOUBLE NOTCH Dynamic filter that creates two notches in the spectrum separated one octave apart.	• **DPTH** — Amount of frequency modulation by the LFO. • **SPD** — LFO frequency. • **NTCH** — Width of the spectrum notches. • **WDTH** — LFO phase offset between left and right channels, creating stereo spread. • **MIX** — Balance between Dry and Wet signal
PITCH SHIFTER Stereo pitch adjustment via variable-speed granular playback.	• **L** — Semitone pitch shift for the left channel. • **R** — Semitone pitch shift for the left channel. • **FEED** — Feedback amount, increasing the effect's intensity/resonance. • **DAMP** — Variable low-pass filter (negative values) or high-pass filter (positive values); affects the feedback and creates a darker or brighter sound. • **MIX** — Balance between Dry and Wet signal.
BBD RESONATOR new Short Lo-Fi delay using variable sample rate technology, with stereo time and stereo panning offsets, allowing for self-oscillation and resonator effects.	• **TIME** — Base delay time. • **OFST** — Delay time offset between left and right channels (bipolar). • **FEED** — Amount of output being fed back into the input to increase the amount of delay repeats, going up to self-oscillation. • **SPRD** — Amount of stereo spread between left and right channels. • **MIX** — Balance between Dry and Wet signal.

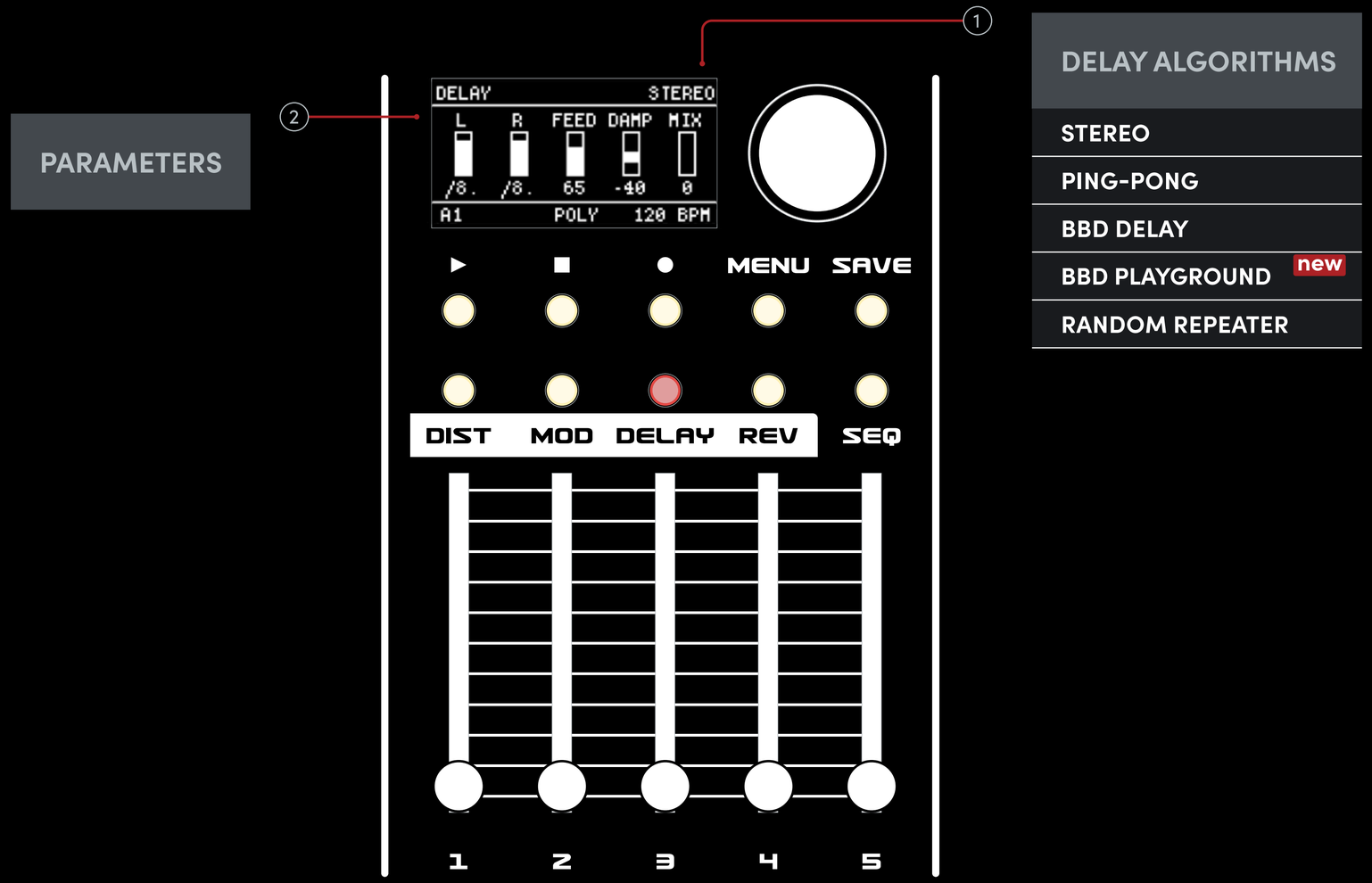
Delay Effects

1. Algorithms

Stereo, Ping-Pong, BBD Delay, BBD Playground, Random Repeater.

2. Parameters

⚠ *Delay time can be synced to internal/external tempo.*



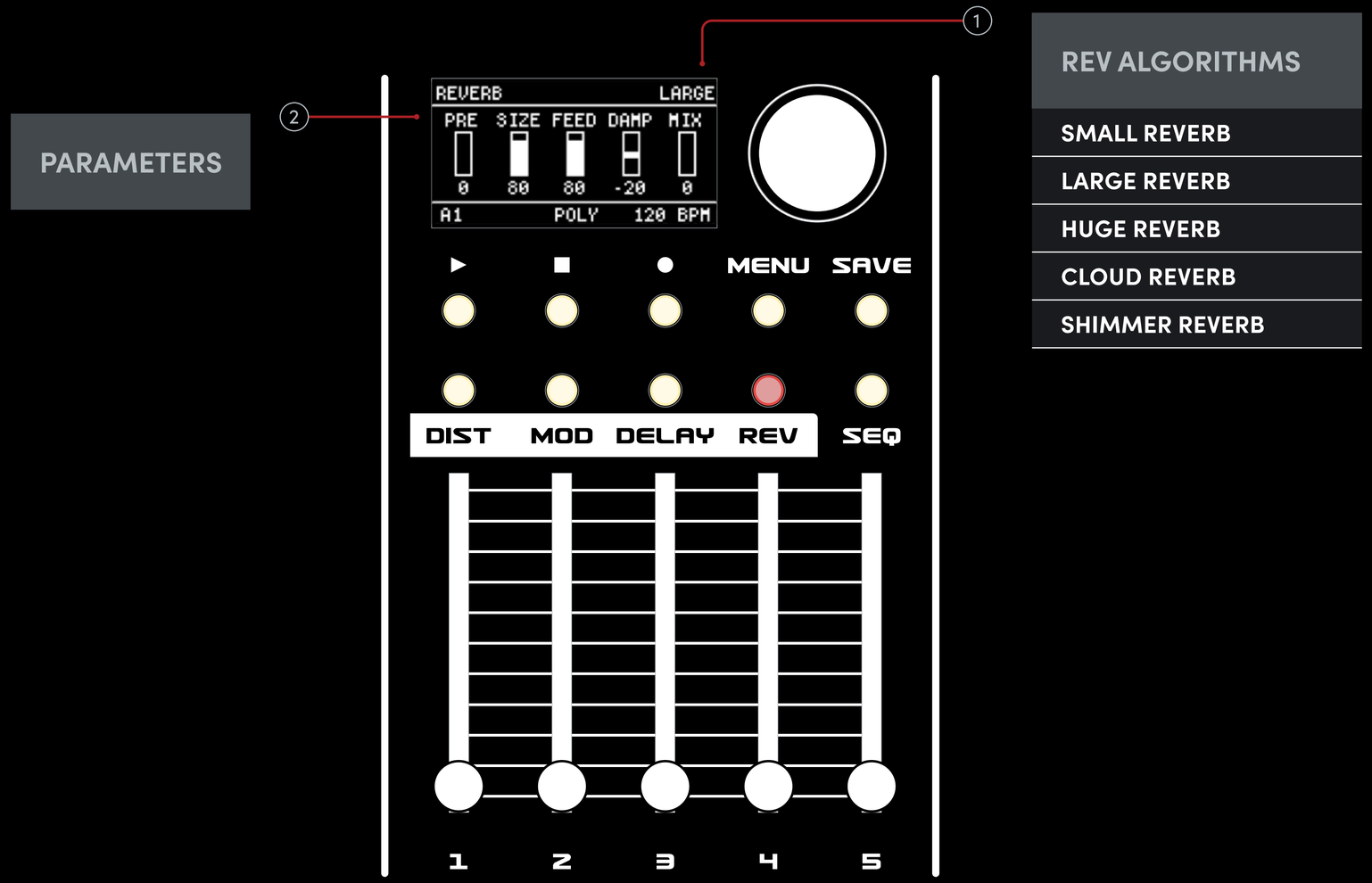
DELAY ALGORITHMS	PARAMETERS
STEREO Classic delay with a variable low-pass or high-pass damping filter.	• **L** — Left channel delay time. • **R** — Right channel delay time. • **FEED** — Feedback amount, increasing the amount of delay repeats (tail length). • **DAMP** — Variable low-pass filter (negative values) or high-pass filter (positive values); affects the feedback and creates a darker or brighter sound. • **MIX** — Balance between Dry and Wet signal.
PING-PONG Delay with alternating left-right or right-left playback and a variable damping filter.	• **TIME** — Delay time. • **PAN** — Switches between left-right and right-left ping-pong mode. • **FEED** — Feedback amount, increasing the amount of delay repeats (tail length). • **DAMP** — Variable low-pass filter (negative values) or high-pass filter (positive values); affects the feedback and creates a darker or brighter sound. • **MIX** — Balance between Dry and Wet signal.
BBD DELAY Lo-Fi delay using variable sample rate technology, with built-in speed modulation.	• **TIME** — Delay time. • **FEED** — Feedback amount, increasing the amount of delay repeats (tail length). • **SPD** — LFO frequency. • **DPTH** — Amount of delay time modulation by the LFO. • **MIX** — Balance between Dry and Wet signal.
BBD PLAYGROUND new Lo-Fi delay built using variable sample rate technology, with stereo time and stereo panning offsets, featuring auto-limiting feedback that allows the effect to self-oscillate	• **TIME** — Base delay time. • **OFST** — Delay time offset between left and right channels (bipolar). • **FEED** — Amount of output being fed back into the input to increase the amount of delay repeats, going up to self-oscillation. • **SPRD** — Amount of stereo spread between left and right channels. • **MIX** — Balance between Dry and Wet signal.
RANDOM REPEATER Records and repeats small chunks of sound, with each cycle having random chunk size and number of repeats.	• **SIZE** — Average size of repeater chunks. • **REP** — Average repeat count. • **PROB** — Probability of each round of repeats. • **EG** — Relative fade in/out time of the repeater envelope. • **MIX** — Balance between Dry and Wet signal.

Reverb Effects

1. Algorithms

Small Reverb, Large Reverb, Huge Reverb, Cloud Reverb, Shimmer Reverb.

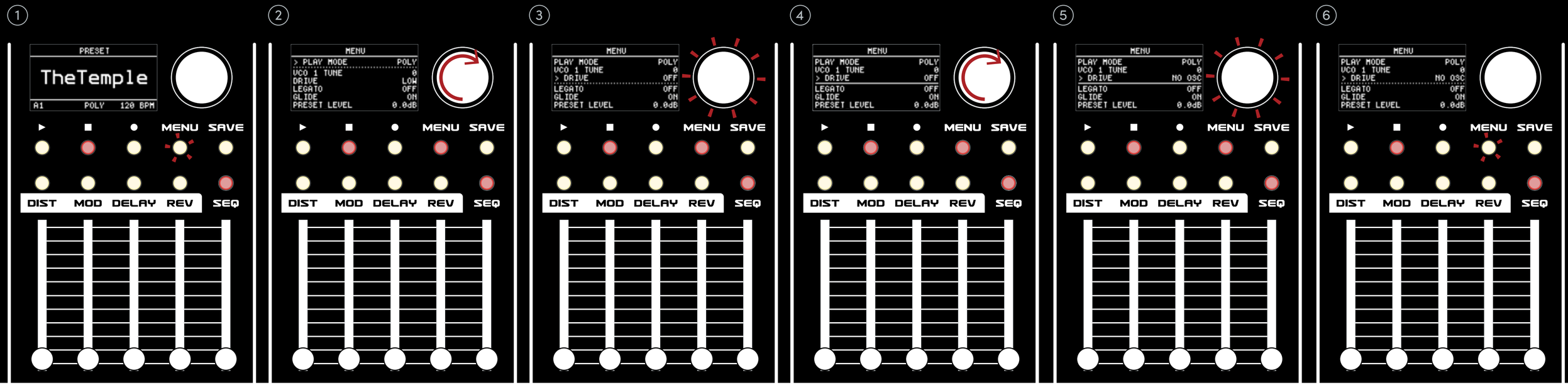
2. Parameters



REV ALGORITHMS	PARAMETERS
SMALL REVERB Classic small stereo space model with variable low/high-pass damping.	• **PRE** — Pre-delay time. • **SIZE** — Relative scale of the virtual space. • **FEED** — Reverb tail decay time. • **DAMP** — Variable low-pass filter (negative values) or high-pass filter (positive values); affects the feedback and creates a darker or brighter sound. • **MIX** — Balance between Dry and Wet signal.
LARGE REVERB Classic large stereo space model with variable low/high-pass damping.	
HUGE REVERB Extra-large, dark stereo space model with variable chorus-style modulation.	• **SIZE** — Relative scale of the virtual space. • **FEED** — Reverb tail decay time. • **SPD** — LFO frequency. • **DPTH** — Amount of time modulation by the LFO. • **MIX** — Balance between Dry and Wet signal.

REV ALGORITHMS	PARAMETERS
CLOUD REVERB Records audio into a buffer and plays it back using multiple randomized, looping playheads; with optional reverse mode.	• **TUNE** — Relative speed detune between grains. • **SIZE** — Average grain size. • **FEED** — Amount of input signal overdubbing the recording in the buffer. • **GRAIN** — Amount of simultaneous playheads (negative values engage reverse playback). • **MIX** — Balance between Dry and Wet signal.
SHIMMER REVERB Lush, ethereal stereo delay that gradually pitch-shifts its tail up or down.	• **TUNE** — Semitone amount of the shimmer pitch shifting. • **SIZE** — Relative scale of the virtual space. • **FEED** — Reverb tail decay time. • **DAMP** — Variable low-pass filter (negative values) or high-pass filter (positive values); affects the feedback and creates a darker or brighter sound. • **MIX** — Balance between Dry and Wet signal.

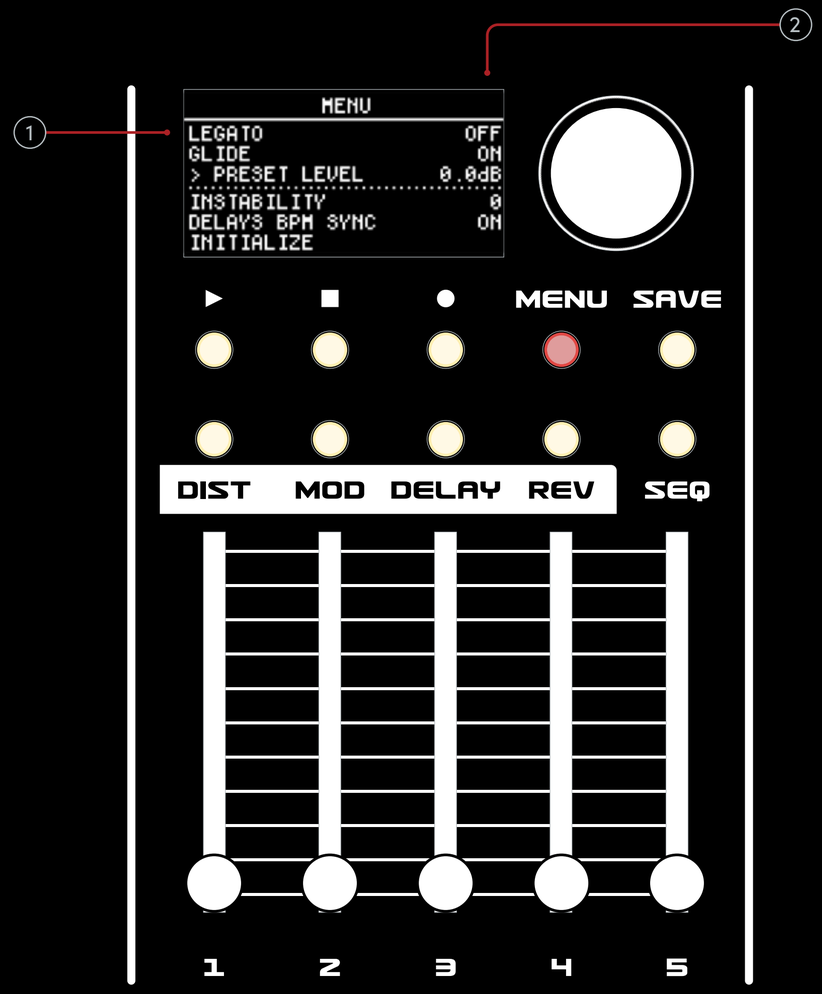
016 MENU PAGE



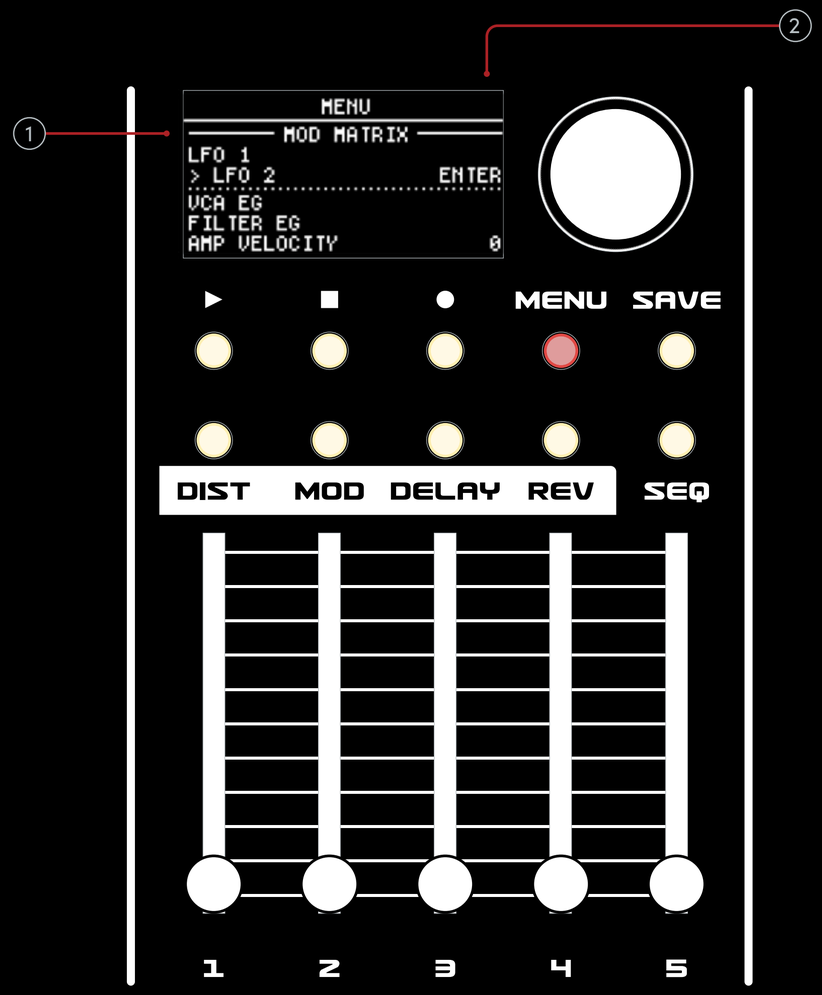
By entering the MENU Page, you can access additional Parameters of the Artemis as well as the MOD MATRIX and Global settings.

1. Press the Menu button to enter the MENU page.
2. Rotate the Encoder to scroll through the Parameters, as seen on the screen.
3. Press the Encoder to choose and edit one of the Parameters.
4. Rotate the Encoder to scroll through the Values for the selected Parameter.
5. Press the Encoder to select the Value.
6. Press the Menu button to exit the MENU Page.

1. PARAMETERS	2. VALUE
PLAY MODE	POLY/ TRI/ DUO/ UNISON/ MONO
VCO 1 TUNE new	-24 semitones to 24 semitones
DRIVE	NO OSC / OFF / LOW / MID / HIGH new
LEGATO	ON/OFF
GLIDE	ON/AUTO
PRESET LEVEL	-13.0 dB to +13.0 dB
INSTABILITY	0 to 100
DELAYS BPM SYNC	ON/OFF
INITIALIZE	CONFIRM/ ABORT



1. MOD MATRIX PARAMETERS	2. VALUE
LFO 1 new	ENTER
LFO 2 new	ENTER
VCA EG new	ENTER
FILTER EG new	ENTER
AMP VELOCITY	0 to 100
VELOCITY	ENTER
MODWHEEL	ENTER
AFTERTOUCH	ENTER
KEY TRACK	ENTER
CC74	ENTER



PLAY MODE

1. **POLY**
   In Polyphonic mode Artemis will act as a 6-voice polyphonic synthesizer. Up to 6 voices can be played at the same time.

2. **TRI**
   In Tri mode Artemis will act as a 3-voice polyphonic synthesizer. The 6 voices will be stacked together into 3 pairs of 2 voices in unison.

3. **DUO**
   In Duo mode Artemis will act as a 2-voice polyphonic synthesizer. The 6 voices will be stacked together into 2 pairs of 3 voices in unison.

4. **UNISON**
   In Unison mode Artemis will act as a monophonic synthesizer (one note can be played at a time) but all the 6 voices will be stacked into a single note creating a thick sound.

5. **MONO**
   In Mono mode Artemis will act as a monophonic synthesizer, playing only 1 voice at a time.

VCO 1 TUNE new

VCO 1 Tune controls the pitch of oscillator 1. The pitch is quantized in semitones with a range of ±2 octaves.

DRIVE

Drive will overdrive the Filter's input, will add more harmonics and will make the sound more aggressive by also changing the resonance character. There are 3 Drive amounts to choose from: Low, Mid and High. Selecting OFF will bypass the overdrive feature.

LEGATO

Turns ON/OFF Legato. When Legato is on, new notes will not re-trigger the Envelopes while other notes are already pressed.

GLIDE

Turns ON/AUTO Glide. When Glide is on, each new note will glide from the previous pressed note at the speed selected with the GLD slider. Selecting AUTO Glide effectively skips glide on the first note pressed after all notes have been released.

PRESET LEVEL

This parameter adds an extra Level control which can be saved on each preset. Preset level range is from -13dB to 13dB.

INSTABILITY

Sets the amount of instability which introduces slight variation from voice to voice for oscillator pitch, filter cutoff, pulse width, and envelope times.

DELAYS BPM SYNC

Syncs delay time to tempo. In this case delay time sets divisions/multiplications of the tempo.

INITIALIZE

Fully resets all parameters and sequencers to initial values.

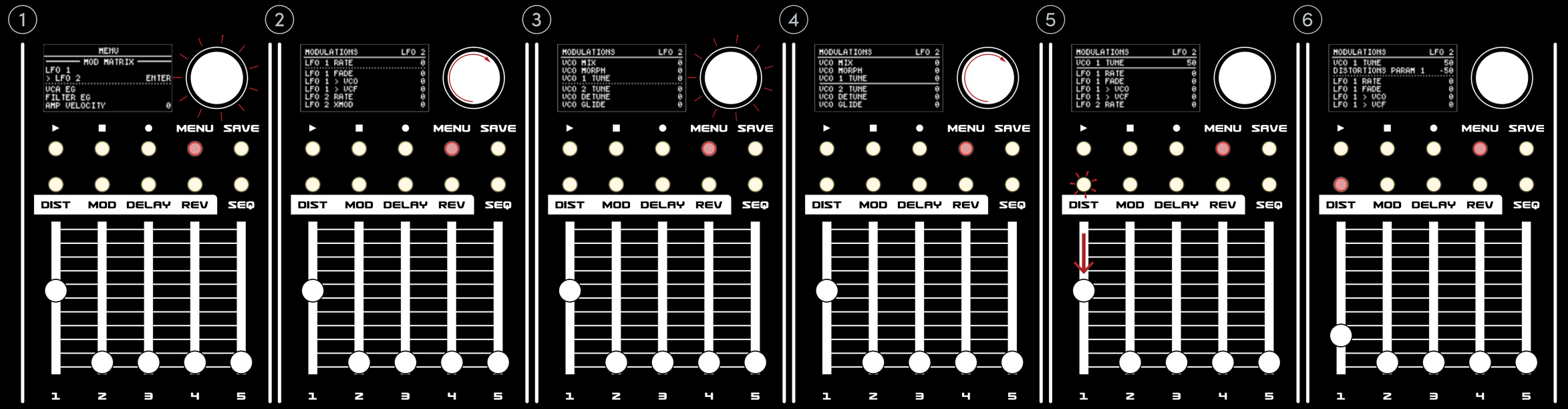
MOD MATRIX new

The Mod Matrix allows modulation sources to be assigned to any panel parameter (knobs and sliders). Use the encoder to select a modulation source (LFOs, Envelopes, Mod Wheel, etc.), then press the encoder to enter the modulation destination list. Once on the destination list, you can assign modulation in two ways. The first is to simply move any knob or slider to set the modulation amount and assign it to the selected source. The second is to navigate the list with the encoder, press to select a parameter, and then set the modulation amount with the encoder. The modulation amount ranges from -100 (full negative modulation) to +100 (full positive modulation). To clear a single parameter, navigate to it and long-press the encoder for 2 seconds to reset its modulation amount to 0. To clear all parameters at once, long-press the encoder for 2 seconds with no parameter selected.

⚠ ***The five effects sliders can also be assigned to Mod Matrix sources.*** *To do so, press the effect button of your choice and use the five sliders to set the modulation amount for each. Different modulation values can be set for the five sliders across each effect category. Note that each slider's modulation assignment is shared across all algorithms within that effect category, regardless of the different parameter roles each slider may have on different algorithms.*

⚠ ***VCO 1 TUNE*** *is a modulation target that can only be assigned via the encoder navigation, as it has no physical control on the panel.* new

⚠ ***MIND*** *that while in the MODULATION destination list the panel controls edit the modulation amount of the parameter and not the parameter value.*



LFO 1 new

Uses LFO 1 as a modulation source to modulate any assigned parameter. LFO 1 is polyphonic (independent per voice). For global targets, such as effects, a monophonic version is also available, operating as a single shared LFO across all the voices.

LFO 2 new

Uses LFO 2 as a modulation source to modulate any assigned parameter. LFO 2 is polyphonic (independent per voice). For global targets such as effects, a monophonic version is also available, operating as a single shared LFO across all voices.

VCA EG new

Uses the VCA Envelope as a modulation source to modulate any assigned parameter. The VCA EG is polyphonic (independent per voice). For global targets such as effects, a monophonic version is also available, operating as a single shared Envelope across all voices.

FILTER EG new

Uses the Filter Envelope as a modulation source to modulate any assigned parameter. The Filter EG is polyphonic (independent per voice). For global targets such as effects, a monophonic version is also available, operating as a single shared Envelope across all voices.

AMP VELOCITY

Sets the amount of Velocity assigned to amplitude.

VELOCITY

Uses keyboard velocity as a modulation source, allowing playing dynamics to modulate any assigned parameter.

MODWHEEL

Uses the Mod Wheel as a modulation source, allowing real-time modulation over any assigned parameter.

AFTERTOUCH

Uses keyboard Aftertouch as a modulation source, allowing key pressure to modulate any assigned parameter. Both Polyphonic Aftertouch and Channel Aftertouch are supported.

KEY TRACK

Uses the played note as a modulation source, allowing keyboard position to modulate any assigned parameter.

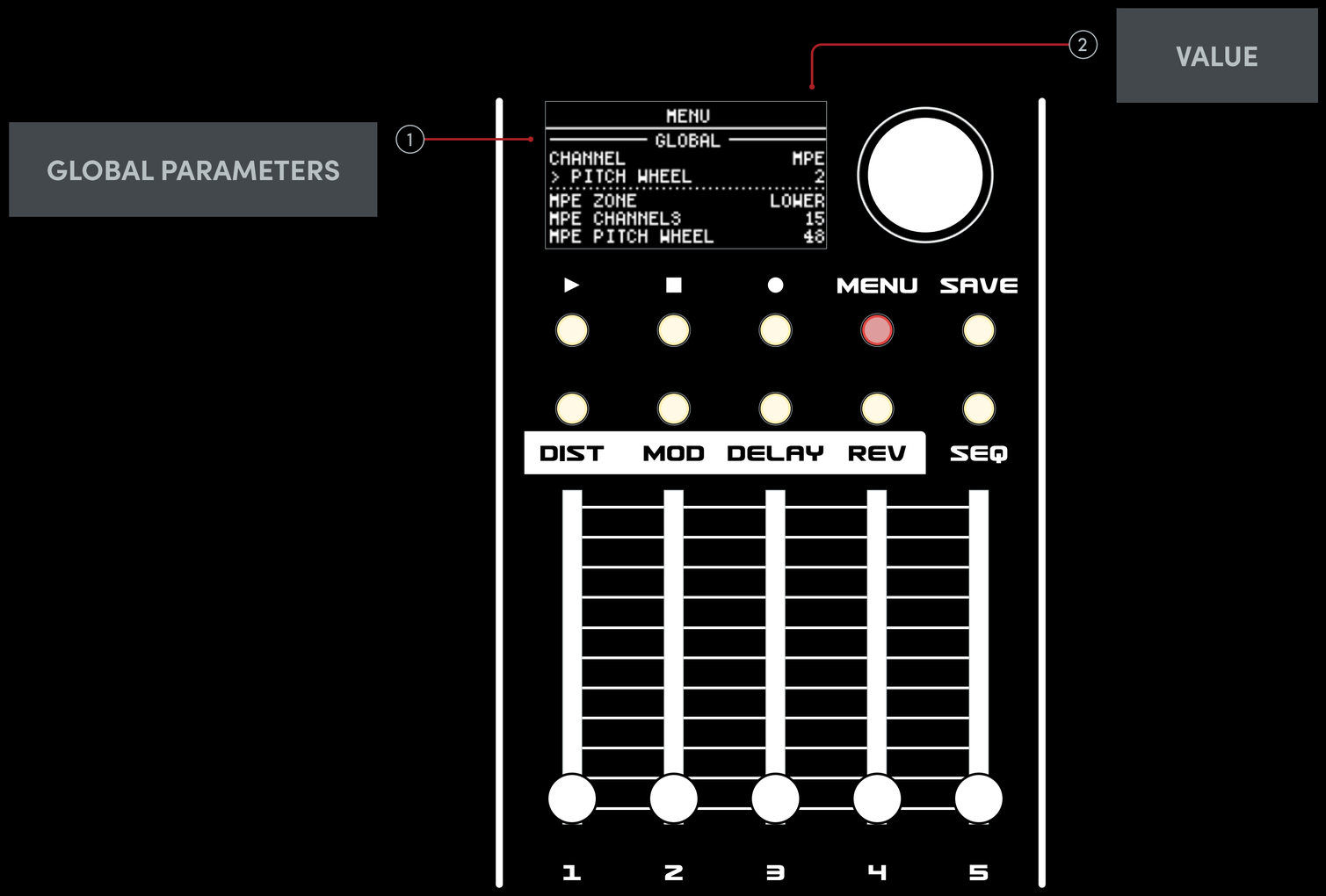
CC74

Uses MIDI CC74 as a modulation source, allowing external controllers such as MPE devices to modulate any assigned parameter.

1. GLOBAL PARAMETERS	2. VALUE
CHANNEL	OMNI/ CH 1 to 16 / **MPE** *
PITCH WHEEL	0 to 12 semitones
CLOCK RECEIVE	ON/ OFF
TRANSPORT RECEIVE	ON/OFF
CC IN	ON/OFF
PC IN	ON/OFF
LOAD PREVIEW new	ON/OFF
CONTROL MODE	SCALE/ JUMP/ CATCH
FINE TUNE	-100 to 100 with a range of ±1 semitone

1. GLOBAL PARAMETERS	2. VALUE
TUNE	START/ ABORT
EXPORT	ACTIVE/ BANK A-H/ ABORT
FIRMWARE	current firmware version (1.1.0)/ UPDATE

1. GLOBAL PARAMETERS	2. VALUE
MPE ZONE	LOWER for channels 1/ UPPER for channel 16
MPE CHANNELS	1 to 15
MPE PITCH WHEEL	0 to 96 semitones


GLOBAL PARAMETERS
1
2
VALUE
MENU
GLOBAL
CHANNEL MPE
> PITCH WHEEL 2
MPE ZONE LOWER
MPE CHANNELS 15
MPE PITCH WHEEL 48
MENU
SAVE
DIST
MOD
DELAY
REV
SEQ
1
2
3
4
5

CHANNEL

Selects the MIDI channel. The selection can be OMNI (responds to all MIDI channels) or 1 to 16 or MPE (activates the MPE support).

PITCH WHEEL

Adjusts the range of the Pitch Wheel from 0 to 12 semitones.

⚠ *When using MPE this affects the amount of the pitch wheel sent through the control channel.*

MPE ZONE

Selects the ZONE of the MPE channels. LOWER for channels 1 or UPPER for channel 16.

⚠ *This menu will only show up when MPE is selected on the CHANNEL menu.*

MPE CHANNELS

Selects the amount of CHANNELS that Artemis will respond to when set to MPE.

⚠ *This menu will only show up when MPE is selected on the CHANNEL menu.*

MPE PITCH WHEEL

Adjusts the range of the Pitch Wheel from 0 to 48 semitones for MPE control.

⚠ *This menu will only show up when MPE is selected on the CHANNEL menu.*

CLOCK RECEIVE

Turns ON/OFF the received external clock.

TRANSPORT RECEIVE

Turns ON/OFF external Transport controls (e.g play/stop/continue).

CC IN

Activates CC control.

PC IN

Activates program change control.

LOAD PREVIEW new

Enables or disables the instant load of the presets while navigating through them.

CONTROL MODE

Sets how the controls (knobs & sliders) of the front panel react when moved from their current saved positions. This affects all controls after a preset is loaded or imported and also the parameters on different pages e.g the 5 sliders per effect page.

- **SCALE**
  In Scale mode, changes of the control value are relative to the stored value. Increasing the slider/knob position will effectively add to the current value, decreasing the position will subtract from the current value. Reaching either end of the slider position will correspond to either the minimum or maximum value as appropriate.

- **JUMP**
  In Jump mode, tweaking a knob/slider, will force the control value to jump immediately from the stored value to the value set by the knob/slider.

- **CATCH**
  Tweaking a knob/slider has no effect until the control value “passes through” the stored value.

Encoder to start the Autotune procedure. Autotune will tune both the Oscillators and the Filters, for proper keyboard tracking. Select and press with Encoder the Abort option if you want to cancel the Auto-tune process.

FINE TUNE

Adjusts the Master Tune from -100 to 100 with a range of ±1 semitone.

TUNE

Performs an Auto-tuning for the voices. Once you have selected the Start option, press the

EXPORT

Allows for presets to be exported and stored on your computer. You will need a software program such as SysEx Librarian for Mac, or Bome SendSX for Windows, in order to do so.

⚠ *Mind that this only works from the USB connection, not the MIDI DIN.*

- **ACTIVE** — Exports the current, active preset.
- **BANK A-H** — Selects the Bank to be exported.
- **ABORT** — Exit/Cancel export.

⚠ *All the presets being sent sequentially through a different sysex message and they are always accompanied by an identification message at the beginning of the message eg. Active preset export will send 2 messages and Bank export will send 65 messages.*

The exported presets can be imported back to the unit directly without the need of alterations or modifications.

- **Importing a preset to the unit**, *will load the imported preset values on top of the current loaded preset without saving it. This way it allows the user to hear the loaded preset and to save it if needed on any preset slot. This is also an easy way to record a preset to your DAW and then send it back to the unit while playing.*
- **When importing a bank to the unit**, *a message will appear on the screen, asking for confirmation and bank selection. For example if you want to move bank A to bank D location and vice versa, you should first export both banks to the computer and then import them to Artemis on the desired location as explained above.*

FIRMWARE

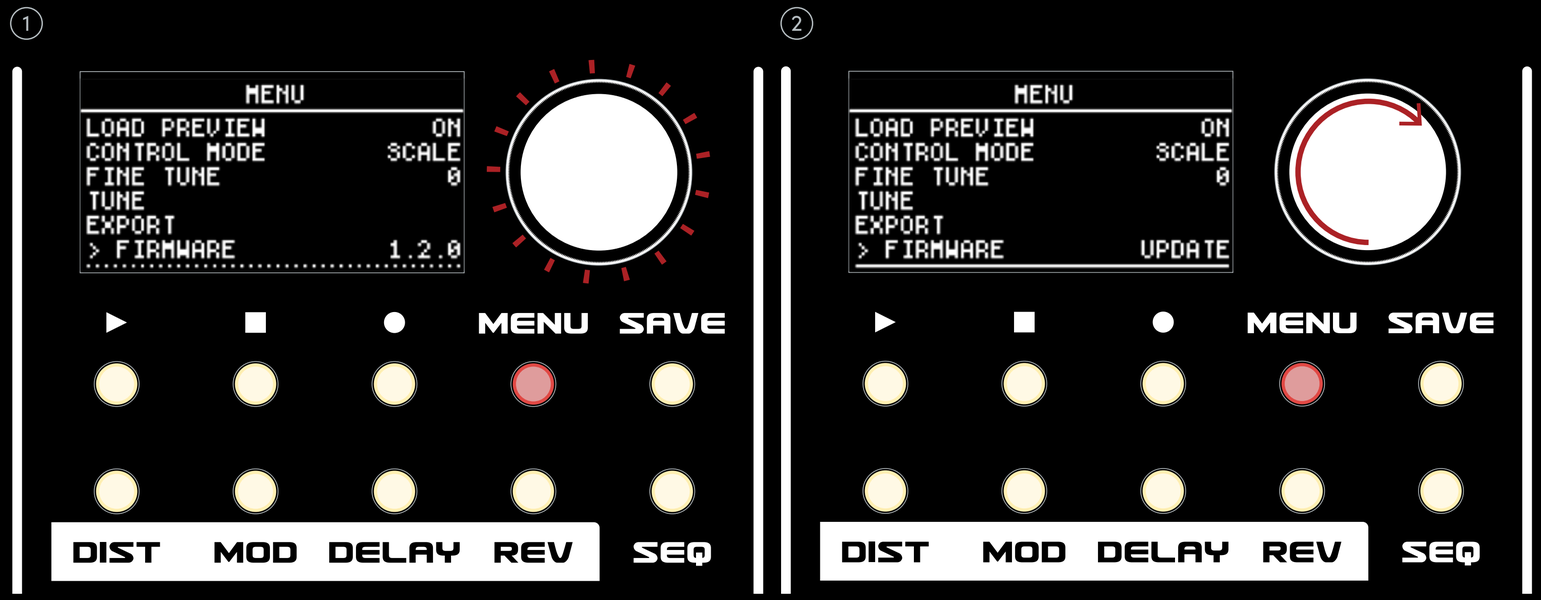
The Firmware option shows the current firmware version.

To proceed with a firmware update, the Bootloader must be engaged. You can access the Bootloader in one of the following ways:

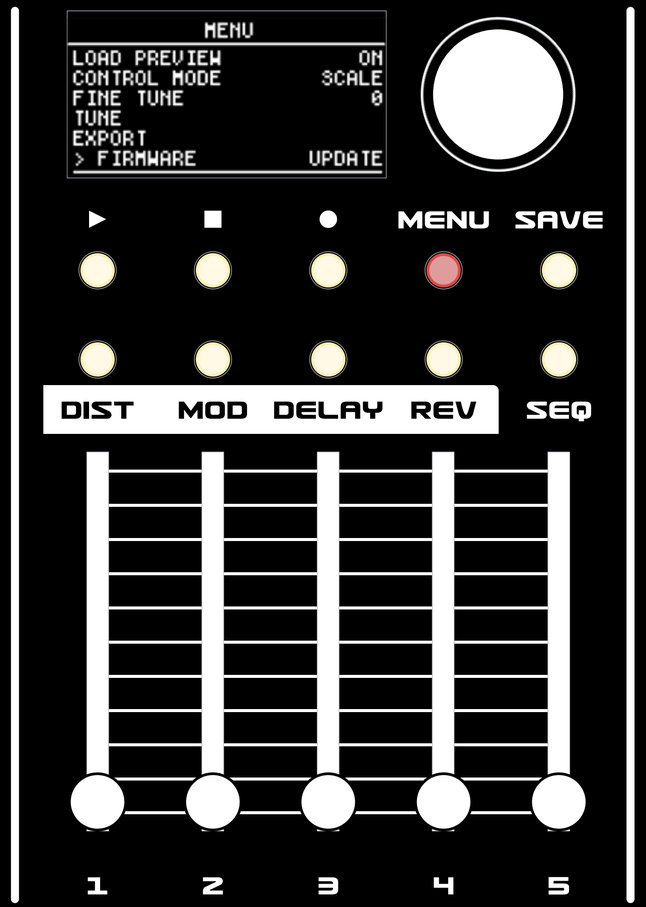
- Navigate to Menu > FIRMWARE > UPDATE
- Alternatively, turn on the Artemis while holding down the Encoder.

⚠ *The firmware update process can be executed only through USB port and not the MIDI DIN port.*

⚠ *In some cases, a power cycle may be required after the update is complete.*



1. Once the Bootloader is entered a message ■ “WAITING FOR USB . .” is shown.
2. Connect Artemis to the computer and immediately it will show ■ “WAITING FOR FIRMWARE . .”.
3. Then open any sysex librarian application like **BomeSendSX** or **SysEx Librarian** and load the **Artemis_1.2.0.syx file**.
4. Select the Artemis Bootloader as the output port and send the file.
5. While the file is being transmitted a message ■ “RECEIVING CHUNK X” (X=Message) will be shown.
6. When the transmission of the file is complete ■ “UPDATED SUCCESSFUL sage will be shown and ■ “REBOOTING IN 3 . .” will follow.
7. At this point the firmware update procedure is completed.



017 MIDI CC LIST

All the values either numerical or enumerated are split in the whole CC range of 0-127.

CC	PARAMETER	VALUE
0	BANK SELECT	BANK A-H
1	MODWHEEL MOD SOURCE	0 - 100
3	LPF FFM NOISE SOURCE	VCO 2 / NOISE
7	VOLUME	0 - 100
18	LFO 1 VCO TARGET	VCO 1 & 2 / VCO 1 / VCO 2
24	LFO 1 WAVE	SINE / TRI / SAW / RAMP / SQR / RND / ENV+ / ENV-
27	LFO 2 WAVE	SINE / TRI / SAW / RAMP / SQR / RND / ENV+ / ENV-

CC	PARAMETER	VALUE
29	LFO SYNC MODE	FREE / KEY / BPM / BPM KEY
30	PLAY MODE	POLY / TRI / DUO / UNISON / MONO
38	DISTORTIONS TYPE	EXP/ PARABOLIC/ SINE CLIP/ S-CURVE/ SOFT-CLIP/ HARD-CLIP/ TRI-CLIP/ TRI-FOLD/ SINGLE-FOLD/ MULTI-FOLD/ SINE-BEND/ SINE-FOLD/ SINE-SHRED/ BIN-SHRED/ SYM-WRAP
44	MODULATIONS TYPE	CHORUS/ ENSEMBLE/ TAPE CHORUS/ BBD CHORUS/ FLANGER/ BBD FLANGER/ ZERO FLANGER/ PHASER/ B-POLE PHASER/ DOUBLE NOTCH/ PITCH SHIFTER/ BBD RESONATOR new
50	DELAYS TYPE	STEREO / PING-PONG / BBD DELAY / BBD PLAYGROUND / RND REPEATER new
56	REVERBS TYPE	SMALL / LARGE / HUGE / CLOUD / SHIMMER
64	SUSTAIN	OFF / ON
65	GLIDE MODE	ON / AUTO
68	LEGATO	OFF / ON

CC	PARAMETER	VALUE
74	CC74 MOD SOURCE	0 - 100
80	VCO FM MODE	MANUAL / EG
81	VCO 2 SYNC	OFF / ON
82	LPF TRACK	OFF / MID / HIGH
83	LPF POLES	24DB / 12DB
86	SEQUENCERS PARAMETER 1	0 - 100
87	SEQUENCERS PARAMETER 2	0 - 100
88	SEQUENCERS PARAMETER 3	0 - 100
89	SEQUENCERS PARAMETER 4	0 - 100
90	SEQUENCERS PARAMETER 5	0 - 100

CC	PARAMETER	VALUE
91	SEQUENCERS PARAMETER TYPE	OFF / SEQ / ARP
92	BPM	30 - 300
93	DRIVE MODE	NO OSC / OFF / LOW / MID / HIGH new
94	PRESET LEVEL	0 - 100
95	AMP VELOCITY	0 - 100
96	INSTABILITY DEPTH	0 - 100
120	ALL SOUNDS OFF	
123	ALL NOTES OFF	

Use CC 31 (Selector) to choose whether subsequent CC messages adjust a parameter's base value or its corresponding modulation amount.

		When set to one of the modulations, the 7-bit CC range is remapped so that:		
		0 → –100	64 → 0	127 → +100

31	SELECTOR	new BASE/LFO 1/LFO 2/VCA EG/VCF EG/VELOCITY/MODWHEEL/AFTERTOUCH/KEYTRACK/CC74
4	LPF FFM	0 - 100
5	VCO GLIDE	0 - 100
6	LPF CUT EG AMOUNT	0 - 100
8	VCO MIX	0 - 100
9	VCA EG DECAY	0 - 100
10	SPREAD	0 - 100
11	VCA EG SUSTAIN	0 - 100

CC	PARAMETER	VALUE
12	EG ATTACK	0 - 100
13	EG DECAY	0 - 100
14	EG SUSTAIN	0 - 100
15	EG RELEASE	0 - 100
16	HPF CUTOFF	0 - 100
17	HPF RESONANCE	0 - 100
19	LFO 1 VCO AMOUNT	0 - 100
20	LFO 1 VCF AMOUNT	0 - 100
21	LFO 2 MORPH AMOUNT	0 - 100
22	LFO 2 PW AMOUNT	0 - 100

CC	PARAMETER	VALUE
23	LFO 1 RATE	0 - 100
25	LFO 1 FADE	0 - 100
26	LFO 2 RATE	0 - 100
28	LFO XMOD	0 - 100
33	DISTORTIONS PARAMETER 1	0 - 100
34	DISTORTIONS PARAMETER 2	0 - 100
35	DISTORTIONS PARAMETER 3	0 - 100
36	DISTORTIONS PARAMETER 4	0 - 100
37	DISTORTIONS PARAMETER 5	0 - 100
39	MODULATIONS PARAMETER 1	0 - 100

CC	PARAMETER	VALUE
40	MODULATIONS PARAMETER 2	0 - 100
41	MODULATIONS PARAMETER 3	0 - 100
42	MODULATIONS PARAMETER 4	0 - 100
43	MODULATIONS PARAMETER 5	0 - 100
45	DELAYS PARAMETER 1	0 - 100
46	DELAYS PARAMETER 2	0 - 100
47	DELAYS PARAMETER 3	0 - 100
48	DELAYS PARAMETER 4	0 - 100
49	DELAYS PARAMETER 5	0 - 100
51	REVERBS PARAMETER 1	0 - 100

CC	PARAMETER	VALUE
52	REVERBS PARAMETER 2	0 - 100
53	REVERBS PARAMETER 3	0 - 100
54	REVERBS PARAMETER 4	0 - 100
55	REVERBS PARAMETER 5	0 - 100
70	VCO MORPH	0 - 100
71	LPF RESONANCE	0 - 100
72	VCA EG RELEASE	0 - 100
73	VCA EG ATTACK	0 - 100
75	LPF CUT OFF	0 - 100
76	VCO SUB / NOISE	0 - 100

CC	PARAMETER	VALUE
77	VCO 1 TUNE new	0 - 100
78	VCO 2 TUNE	0 - 100
79	VCO DETUNE	0 - 100
84	VCO FM	0 - 100
85	VCO PULSE WIDTH	0 - 100

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