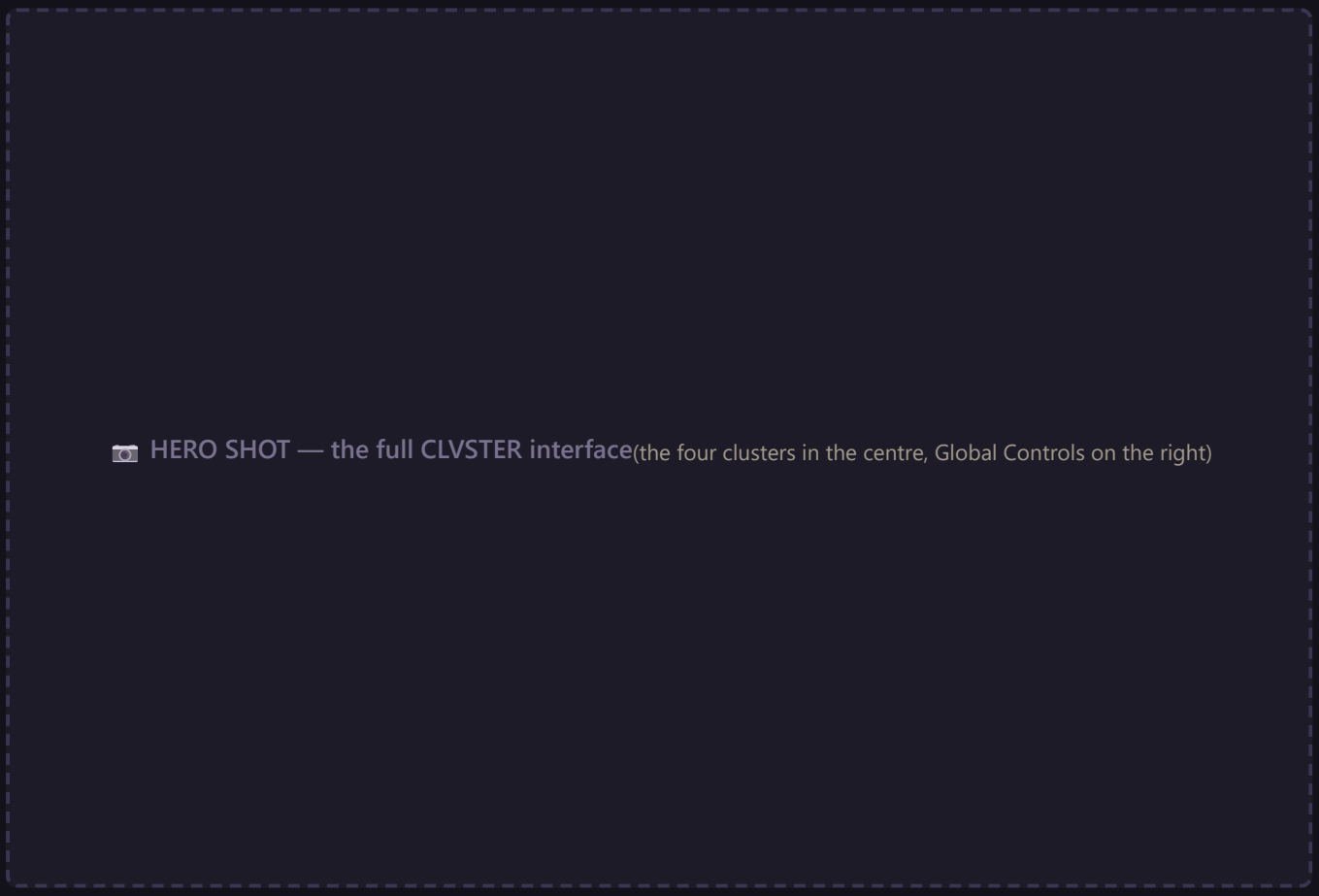
XOVND · INSTRUMENT

CLVSTER

A human-operated, multi-algorithmic sequencer. Instead of programming individual steps, you **operate on Clusters** — and shape the randomness until music emerges.



① Generate ② Lock ③ Sequence ④ Perform

THE BIG PICTURE

How CLVSTER thinks

CLVSTER has **four Clusters**. Each one runs a little **algorithm** that keeps generating a melodic + rhythmic pattern. Your job isn't to draw notes — it's to **steer the randomness** with a handful of sliders and a harmony setting, until you hear something you love. Then you capture it.

The four zones

- **Centre — the 4 Clusters.** The octagons. Each runs one algorithm (EUCLID / TURING / NIBBLER / GRIDS) and plays a pattern.
- **Right — Global Controls.** harmony Scale, Key, Progression + speed & routing for the whole instrument.
- **Left — Cluster Mods & Step Mods.** Extra processors that reshape rhythm & pitch.
- **Snapshot Sequencer.** 📸 Where you chain favourite patterns into a full arrangement.

The colour code

♪ PINK = **pitch / harmony** — anything that decides *which notes* play.

⏱ MINT = **rhythm** — anything that decides *when* notes play.

🔒 AMBER = **lock & commit** — freezing or storing what you have.

You'll see these same colours on the sliders and icons inside the plugin.

STEP ONE

1 Generate & shape the randomness

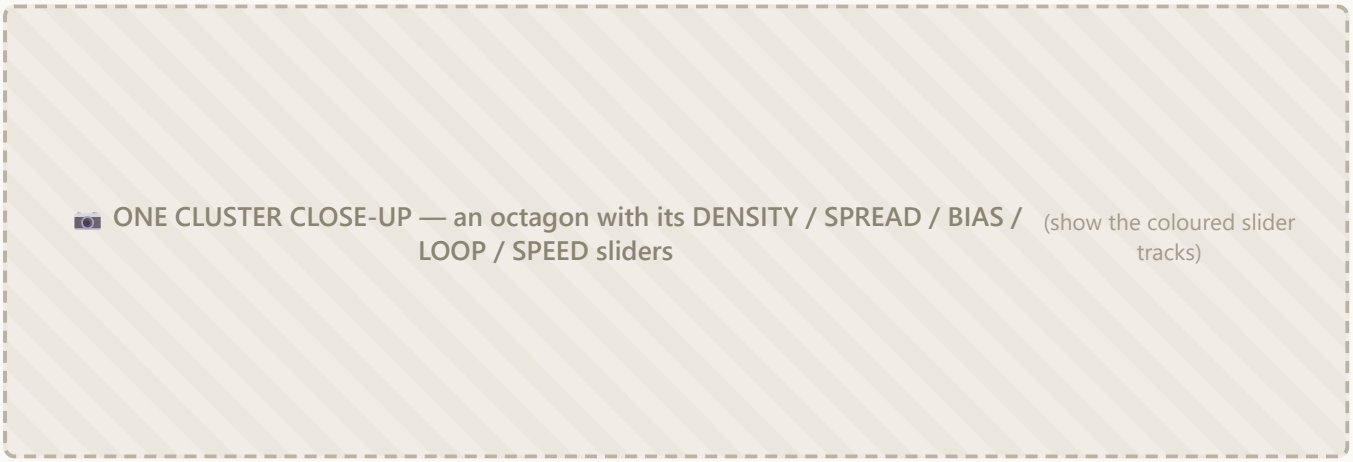
Click the **mode tag** above any cluster to choose its algorithm. Then move the four sliders to reshape the pattern in real time. Every algorithm uses the same four knobs — it just hears them differently.

EUCLID Evenly-spread pulses. **Pulses** = how many hits, **Rotate** = where they start, **Density** = how many actually sound, **Pitch** = note range.

TURING A random-walk melody. **Density** = how busy, **Spread** = how wide the melody jumps, **Bias** = lean high/low, **Loop** = how much it repeats vs mutates.

NIBBLER A tiny 4-bit "CPU word" melody. **Word** = the pattern, **Shift** = morph per cycle, **Phase** = where it reads, **Thin** = sparser.

GRIDS 16 named drum grooves. **Patt** = pick a groove, **Density** = trim hits, **Rotate** = shift, **Accent** = on-beat vs back-beat.



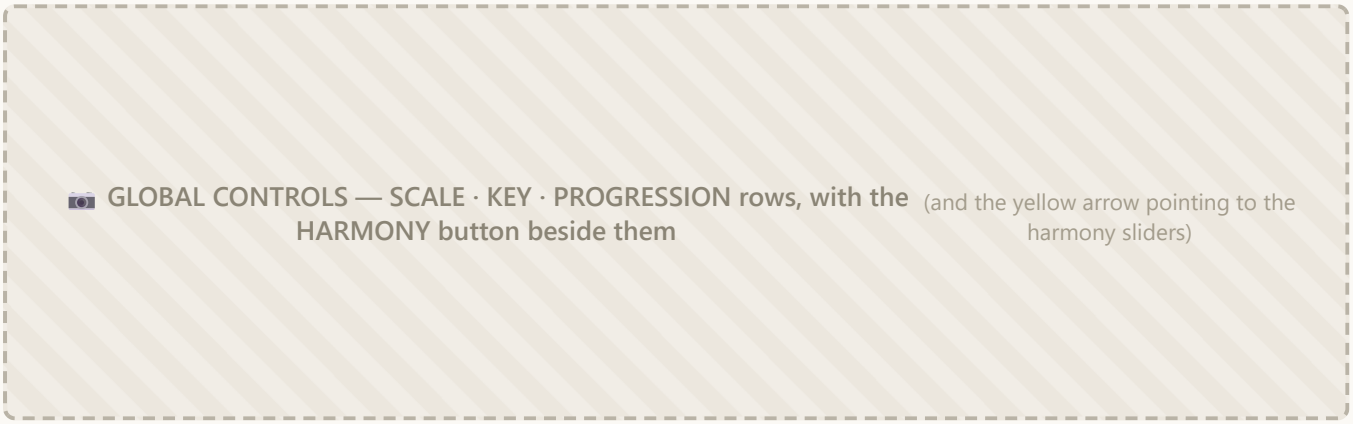
🎲 **DICE** re-rolls everything into a fresh random variation. Hit it until something sparks — then start shaping with the sliders. **SPEED** on each cluster sets how fast that cluster plays vs the others (great for polyrhythms).

STEP TWO

2 Set the harmony, then lock

The **harmony** rows decide the musical world every cluster lives in.

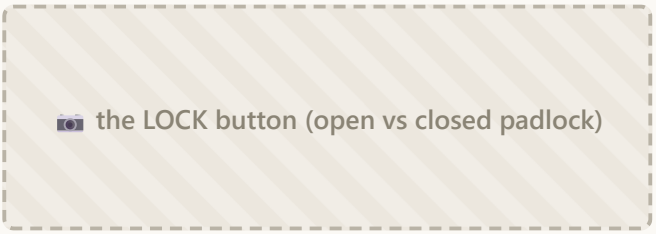
- **SCALE** — pick the scale. Includes **microtonal** tunings (Bohlen-Pierce, Carlos Alpha…) — the slider glows cyan when you're in microtonal territory.
- **KEY** — the root note everything is tuned around.
- **PROGRESSION** — a chord cascade the clusters follow (e.g. *i–VI–III–VII*).



🔒 **The Lock moment.** While unlocked, the clusters keep re-rolling — the music is alive and evolving. The second you hear a pattern you love, hit **LOCK**. That freezes the exact pattern so it stops mutating. *Unlocked = explore. Locked = keep.*

Workflow so far

Pick algorithms → roll the dice → shape with sliders → set scale & key → **listen** → **LOCK** what you like.



STEP THREE

3 Build a longer sequence

One locked pattern is a loop. To make a **song**, capture several patterns and let the **Snapshot Sequencer** cycle through them.

⏸ IDLE = build mode

- Design a pattern you like. Click the 📸 **camera** — the four slots flash **"STORE HERE"**.
- Click an empty slot to store it. That snapshot remembers *everything* — pattern, scale, key, speed.
- Tweak the clusters into a new idea → store snapshot 2 → repeat. Each one is independent.

▶ PLAY = perform mode

- Hit **PLAY** and the sequencer auto-cycles your snapshots (each holds for its **REPEATS** bars) → an evolving arrangement.
- The clusters grey out (they're driven by the snapshots now) — that's your cue you're performing, not building.

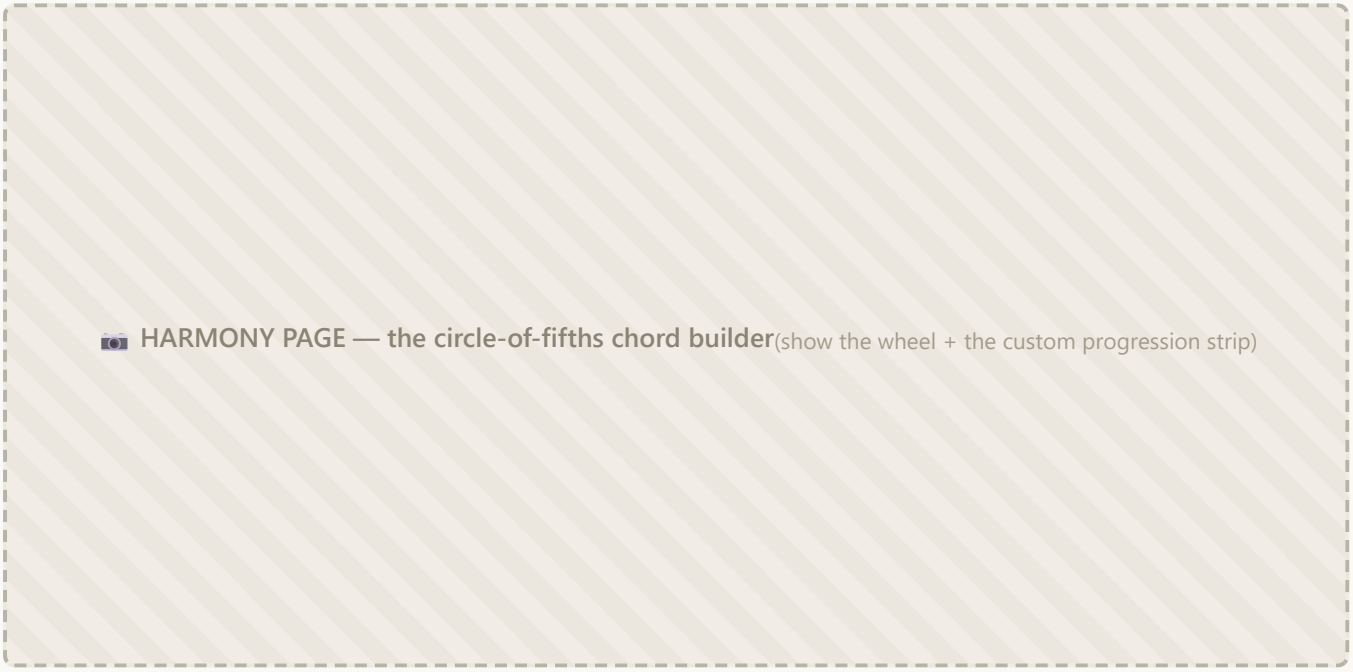
✨ **Live post-production.** While in PLAY, **grab** any global control — SCALE, KEY, PROGRESSION, SQUEEZE, DIV/MULT, SEQ OFFSET, NOTE LENGTH, SEQ LENGTH — and it lights up with a **green "LIVE" rim**, riding over the *whole* cycling sequence. Untouched controls keep playing per-snapshot. Switch back to IDLE to release.

STEP FOUR

4 Custom chords — the Harmony page

Want chords beyond the built-in progressions? Click the 🎹 HARMONY button (beside the SCALE/KEY/PROGRESSION rows) to open the **Circle-of-Fifths** page.

- **Build a progression by ear** — tap chords around the wheel; CLVSTER keeps them in your chosen scale & key.
- **Per-cluster chord tones** — each cluster can lean on a different degree of the chord, so the four voices harmonise instead of clashing.
- **DEG / INV / ROOT** under each cluster fine-tune which chord tone & octave that cluster plays.



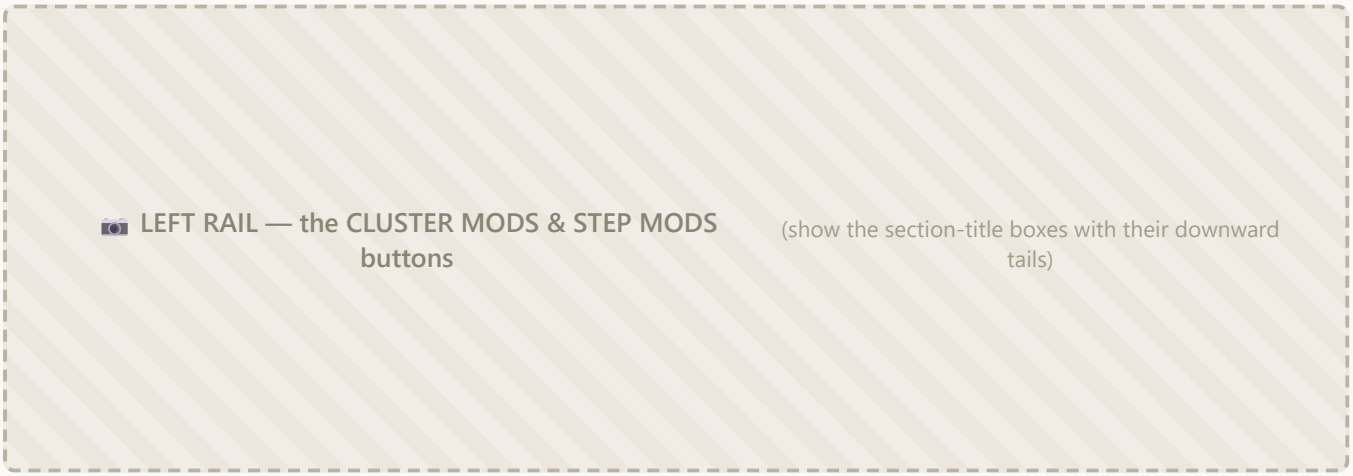
> 🎹 The Harmony page sets the *chords*; the clusters decide *how* those chords are played (rhythm, arpeggiation, voicing). Together they turn random pulses into real harmony.

THE TOOLBOX

Cluster Mods & Step Mods

The left rail holds extra processors. Two section titles — **CLUSTER MODS** and **STEP MODS** — group the buttons beneath them. Use them once you have a pattern you like.

MODIFIER	WHAT IT DOES
SQWZ NOTES	Pitch squeeze — compresses the pitch range toward the key's tonic. Great for taming wild Turing melodies or "post-producing" a sequence in PLAY.
STEP MASK	A Euclidean mute mask laid over the pattern — silence steps rhythmically without changing the notes.
BOOLEANS	Combine cluster pairs with logic — XOR / AND / OR / SUB — so two clusters' rhythms interlock into one.
ADD TRIPLETS	Drops triplet sub-steps inside the grid for swing, rolls and 3-against-4 feels.
HOLD STEPS	Metropolis-style — make a step *hold* for several beats before the playhead moves on. Stretches a pattern into something more melodic.
ADD RATCH	Ratchets — retrigger a single step several times (with timing & decay) for fills and stutters.



ERASER TAP deletes steps rhythmically (even while a sequence plays). **DETERMINISTIC** mode lets you hand-edit each step's pitch & gate when you want full control.

KEEP THIS HANDY

Cheat sheet

The four algorithms

ALGORITHM	CHARACTER	BEST FOR
EUCLID	Even, hypnotic pulses	Plucks, percussion, arps
TURING	Evolving random-walk melody	Leads, basslines, generative motifs
NIBBLER	Glitchy 4-bit register melody	Acid lines, chiptune, complex sequences
GRIDS	16 ready-made drum grooves	Drums & rhythmic foundations

Live-override controls (grab in PLAY → green "LIVE" rim)

SCALE · KEY · PROGRESSION · PITCH SQUEEZE · DIV/MULT · SEQ OFFSET · NOTE LENGTH · SEQ LENGTH

Five-minute workflow

1	Pick an algorithm per cluster · 🎲 dice until inspired
2	Shape with DENSITY / SPREAD / BIAS / LOOP
3	Set SCALE + KEY · listen · 🔒 LOCK what you love
4	📸 Store snapshots in IDLE → ▶ PLAY to chain them
5	Perform: grab globals for LIVE post-production ✨

> Need help inside the plugin? The floating **? WORKFLOW** button replays the guided tour, and the **?** toggle shows hover-info on every control.

CLVSTER · made by XOVND · xovnd.com — happy sequencing 🔊