

Lyra Melody Maker: Operation Manual

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Overview

Lyra Melody Maker is a Reason Rack Extension Player Device designed to create topline melodies from static chord progressions. It utilizes a 4-cell seed-based engine to generate rhythmic and melodic patterns and allows the user to generate new seeds for specific parts of the melody. Melodies are generated using 1 of 20 distinct algorithmic voices that define the performance style. To ensure quick musicality, an integrated Key Quantizer snaps all generative output to a user-selected scale.

The Usuals

The "ON" Button: ON Button: Bypasses the Lyra Melody Maker. When bypassed, your incoming MIDI chords will pass straight through to the instrument unaltered.

The Patch Browser: The standard Reason patch browser

Panel Reference: Knobs and Buttons

Flow Section



- **Rate:** Sets the note size. Quarter, 8th, triplets, 16th, 32nd etc...
- **Density:** Adjusts the probability of notes triggering on any given step vs a rest, ranging from sparse textures to busy melodic lines and chaotic arpeggios.
- **Length:** Controls the duration of generated notes, from short staccato plucks to long legato sustains.

Form Section



What are Cells?

Cells are 1/4th of your melodic loop. The “Cell Size” knob determines how big those quadrants are, and thus the size of your loop. For example if Cell Size is set to 1 bar, then your loop is 4 bars long. Each Cell can be individually muted, or have their pitch and rhythm seeds randomized. A green LED lights up at the top of each Cell to illustrate what cell is being played during the loop.

- **Voice:** Selects one of 25 mathematical algorithms that dictate how the melody is performed. See specific voices below. Generally they are organized by my accessible to more chaotic.
- **Delta:** Controls the probability of Voice-specific adjustments, such as glitches or genre specific rhythmic shifts.
- **Seed Spread:** Determines the octave range of the melodic seeds. Note: this range is also highly regulated per voice. Squashing it all the way down may still result in a large spread for some voices.
- **Cell Size:** Sets the duration of each individual quadrant from 1/2 a bar up to 4 bars. Because the engine sequences across 4 cells, your total generated loop length will range from 2 to 16 bars.
- **Global Pitch Button:** Generates a new random pitch seed for the entire device to shift the melodic structure.
- **Global Rhythm Button:** Generates a new random rhythm seed to reset the foundational timing of the sequence.
- **Cell 1–4 Mute:** Silences the output for that specific quadrant of the sequence.
- **Cell 1–4 Pitch:** Generates a new, localized pitch variation for that quadrant without affecting the rest of the sequence.
- **Cell 1–4 Rhythm:** Generates a new, localized rhythmic variation for that quadrant.
- **Key:** Selects the scale (12 major/minor keys + Chromatic/Off) used by the internal quantizer to keep all leaps musical. This is a CPU/workflow efficient alternative to using Reason’s Scales Chords Device. For the better preservation of intervals, Scales and Chords is recommended.
- **Key Lock:** Locks the current selected key while browsing presets. Note: the Key text will display as “OFF” while browsing.

A Note on the Seed Engine & Density Logic

Deterministic Seed Generation: Every step of your sequence generates a unique, repeatable random number by combining your Global settings, individual Cell variations, and CV inputs. This ensures your generative melodies are constantly evolving but reliably repeatable. Seeds are first generated when the Lyra device is dropped in the rack, and further generated when the random buttons are clicked.

Standard Voices (Dynamic Groove): For most voices, Lyra applies a built-in musical groove to your Density setting. It mathematically boosts the probability of notes triggering on strong downbeats and upbeats, while penalizing offbeats, ensuring the algorithm plays with a natural, human pocket.

Chaotic Voices (Flat Probability): When you select a Chaotic Voice (12, 13, 14, 15, 16, 18, and 19) or use a Legacy Preset, the engine completely bypasses the musical groove logic. Every step has an equal, flat statistical chance of triggering, resulting in highly unpredictable, ambient, and glitchy phrasing.

Global Intelligence Rules

Lyra has many rules that guide its melody generation. Some are not always followed, especially on specific voices. Some are secret. Here are a few.

- **Motif Linking (A-B-A-C):** Lyra isn't just randomly walking; it understands song structure. There is a continuous 30% chance that the sequence in Cell 3 will mathematically mirror Cell 1, creating instantly recognizable, hook-driven A-B-A-C structures.
- **The "Singer's Rule" (Maximum Leap Constriction):** Real musicians don't randomly jump 3 octaves during an 8th-note run. Lyra limits standard generative leaps to a maximum of a perfect 5th (7 semitones) per step, ensuring the melodies stay smooth and singable.
- **Harmonic Anchor:** On strong downbeats, Lyra ignores chaotic pitch generation and snaps strictly to a note from the chord you are physically holding, cementing the harmony before wandering off on the upbeats.
- **Forced Phrase Rests:** To let the melody "breathe," Lyra forces an 85% probability of a rest at the very end of a Cell, applying a tight, staccato articulation to the final note before the rest.
- **Velocity Pocket:** Standard sequences possess a natural drummer's pocket—downbeats hit at 115 velocity, offbeats dip to 90. Your Velocity randomizer applies its chaos on top of this established groove.

Vibe Section



- **Mood:** Shifts the harmonic flavor; negative values favor darker intervals, while positive values favor brighter ones.
 - **Octave:** Transposes the generated melody up or down by two octaves.
 - **Swing:** Adds a rhythmic shuffle by delaying offbeat notes.
 - **Velocity:** Introduces random variations in note intensity to create a more human feel.
 - **Ghost Notes:** Introduces low-velocity syncopated notes into the gaps of the main sequence.
 - **Less Spooky:** When active, Ghost Notes are 30% less likely to trigger and occur within a stricter octave range.
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Voice Summary and Delta Impacts

Simple Voices: These first 5 voices are designed to create accessible, catchy melodies. Meant to be musical anchors and provide the foundational hooks for your production, some parameters like seed knob, swing, or ghost notes might have little effect if any to keep the melodies memorable and singable. They stay strictly in key, utilize singable melodic intervals, and maintain a clear rhythmic focus. They know exactly when to play and more importantly, when to breathe.

Spark

- **Behavior:** A highly rhythmic, sparse, and catchy voice. It strictly uses a 5-note pentatonic scale based on your held chord. It strongly favors downbeats and forces rests on complex 16th-note syncopations to create a solid, groovy, and unbreakable foundation.
- **Delta Impact:** Introduces "Call & Response." Turning up Delta creates a probability that Spark will punctuate the very end of a phrase by forcing a bright, accented "answering" note (jumping to the perfect 5th or the octave). This turns a repetitive 1-bar loop into a sophisticated, evolving progression.

Hook

- **Behavior:** A pop-focused voice that generates more sustained melodies. It uses a strict A-B-A-C motif structure, meaning the 3rd bar perfectly mirrors the 1st bar to create a memorable, repeating hook. It also slightly increases note density on the upbeats for natural vocal syncopation.
- **Delta Impact:** Introduces "Motif Mutation." Turning up Delta creates a probability to completely randomize the final "C" phrase of the loop, breaking the repetition for an unexpected melodic fill.

Banger

- **Behavior:** An upbeat, energetic pop voice. It strictly anchors to your held chord tones on the strong downbeats to maintain harmonic glue, while pushing the density higher on the upbeats to drive the rhythm forward.
- **Delta Impact:** Injects "Anticipation." Introduces a probability to strike a 16th-note early, right before the downbeat hits.

Smooth

- **Behavior:** An R&B-flavored voice with a wider, expressive vocal range. It primarily utilizes stepwise motion (moving scale degree by scale degree) to create highly "singable" lines, and specifically targets tension/resolution notes (like the minor 3rd) at the end of its phrases.
- **Delta Impact:** Injects "Grace Notes." Introduces a probability on downbeats to trigger a rapid, quiet grace note milliseconds before the main pitch lands.

Glide

- **Behavior:** Mathematically disables the global swing knob and forces very short, staccato notes. It restricts its pitch pool to a tight, moody micro-scale (root, minor 3rd, 4th, 5th, minor 7th) based on your held notes.
- **Delta Impact:** Triggers "Ratchet Stutter." Introduces a probability to fire rapid, consecutive stutter notes within a single 16th-note step.

Standard Voices: Where melodic math meets traditional sequencing, these 12 voices can become chaotic arpeggios if you push the parameters, but with lower densities and toned-down parameters can produce simple catchy melodies. Designed for versatility, they are perfect for creating evolving leads, downward spirals, and Bach-like melodic reflections that explore the full breadth of your pitch range. Unlike the Simple category, these voices are fully reactive

to every knob on the panel. Seed Spread and Mood become your primary tools here, allowing you to dramatically reshape the harmonic DNA of the sequence while maintaining a recognizable rhythmic pulse.

Computer

- **Behavior:** Operates as the standard generative sequence.
- **Delta Impact:** Introduces a probability (scaled to 45% of Delta) to trigger a "Buffer Lock," which forces the current step to repeat the exact pitch and velocity of the previously generated note.

Tide

- **Behavior:** Forces a minimum note length of 0.7 (long sustained notes). The Mood knob applies specific harmonic intervals: -5, 7, 12, -12, and 5. Low notes ring out as long, sustained pedal tones, while high notes play as short, plucky splashes. Velocity rises and falls over the course of the loop (all four cells).
- **Delta Impact:** Introduces a probability to drop the pitch by exactly 7 semitones (a perfect fifth).

Neon

- **Behavior:** Disables all swing offsets and forces short, staccato note lengths (-0.4). The Mood knob applies intervals of 0, 2, 4, 7, and 9. The Density knob follows a strict Euclidean mathematical sequence, perfectly spacing the hits for driving, syncopated cultural rhythms (like Tresillo or Dem Bow).
- **Delta Impact:** On odd-numbered (offbeat) steps, it introduces a probability to jump the pitch up exactly 12 semitones.

Bounce

- **Behavior:** The Density knob follows a strict Euclidean mathematical sequence, perfectly spacing the hits for driving, syncopated rhythms.
- **Delta Impact:** Specifically targets downbeats (every 4th step) and introduces a probability to skip (mute) the note entirely.

Pulse

- **Behavior:** Forces short note lengths (maximum of -0.2). The Density knob follows a strict Euclidean mathematical sequence, perfectly spacing the hits for driving, syncopated cultural rhythms (like Tresillo or Dem Bow).
- **Delta Impact:** Introduces a probability to trigger a "Pulse Accent," which forces the note to maximum velocity (127) and doubles its length multiplier.

Rain

- **Behavior:** Automatically shifts low notes up 24 semitones and drops ghost notes down 24 semitones. It triggers two additional echo notes per step at 1/4 and 1/2 beat intervals.
- **Delta Impact:** Converts the standard 1/4 and 1/2 beat echoes into triplet divisions (1/3 and 2/3 of the beat length).

Velvet

- **Behavior:** Clamps pitches tightly to the root note and applies a continuous sine-wave LFO to automate the note velocity. The Mood knob uses intervals of 3, 7, 10, 14, and -5. Plays legato on the downbeats, staccato on the offbeats.
- **Delta Impact:** Scales the intensity of the velocity LFO and introduces "Rhythmic Drift," adding a random timing offset to push the note off the grid. Turning up Delta allows Velvet to slip a "chromatic approach note" (1 semitone below the scale) right before the downbeat for authentic bebop flavor.

Cascade

- **Behavior:** A downward-spiraling sequence that ignores standard pitch generation and continuously drops the previous pitch by 1 to 3 semitones.
- **Delta Impact:** Introduces a probability to interrupt the descent and jump the pitch back up by 5 semitones.

Orbit

- **Behavior:** Gravity pulls the melody to the root of the chord.
- **Delta Impact:** Turning the knob left lets the melody escape gravity for lower octave jumps. Turning the knob right lets the melody escape gravity for higher octave jumps.

Monolith

- **Behavior:** Automatically slows the sequence by lowering the Rate by 2 steps and drops the baseline pitch by 12 semitones.
- **Delta Impact:** Introduces a probability to drop the pitch by *another* 12 semitones and force the note to maximum velocity (127).

Prism

- **Behavior:** Applies massive random octave shifts between -3 and +3 octaves to every generated note.
- **Delta Impact:** Turning up Delta intercepts single notes and shatters them into rapid, 32nd-note ascending arpeggios built from your held chord.

Mirror

- **Behavior:** The second half of any cell perfectly mirrors the exact rhythmic and melodic seed of the first half in reverse, sounding like a classical Bach invention.
- **Delta Impact:** Increases the odds of imperfections in the "reflection" half of the cells.

Chaotic Voices: The final 8 voices are designed to push the engine to its mathematical and entropic limits. They intentionally break standard sequencing rules to create granular textures, ambient messes, and glitchy, broken artifacts that sound like a machine dreaming. The knobs in this category behave like "entropy sliders"—turning up Delta or Seed Spread fundamentally alters the stability of the voice, triggering rapid-fire micro-grains or silent, "lost" notes. These are designed for those who want to lose control and find beauty in the accidents.

Cloud

- **Behavior:** It cuts the density multiplier to 40% and forces a maximum base note length of 1.0.
- **Delta Impact:** Adds up to a 3.0x multiplier to the note lengths, expanding the notes into massive, overlapping drones.

Fractal

- **Behavior:** Chaos is strictly suppressed on strong downbeats to provide a rhythmic anchor.
- **Delta Impact:** Introduces a probability to trigger a "Fractal Glitch," which randomizes the swing timing offset and completely randomizes the note length (between -1.0 and 1.0) on a per-step basis.

Lost

- **Behavior:** Halves the density and applies random octave shifts between -3 and +3 octaves. The Mood knob introduces dissonant intervals (-1, -6, 6, 11, -13).

- **Delta Impact:** Introduces a probability to push the generated note up 36 semitones (3 octaves) and drop the velocity to a nearly silent 10.

Hiccup

- **Behavior:** Introduces a probability to trigger rhythmic "Hiccups," altering the tempo of individual steps by multiplying the beat length by either 1.5x or 0.75x.
- **Delta Impact:** Turning up Delta triggers rapid, ping-pong-like MIDI ratchets that accelerate as they fall (1/2, 3/4, 7/8ths of the beat) for quiet little accidents.

Swarm

- **Behavior:** Enforces extremely short note lengths (-0.9) for a granular sound. Chaos is strictly suppressed on strong downbeats to provide a rhythmic anchor, allowing the rest of the bar to go wild without losing the listener. Subject to bursts of short midi with varying velocities. Try with delay effects.
- **Delta Impact:** Dynamically slices the frame into up to 8 micro-grains. Every single grain is fired with a wildly randomized velocity (between 20 and 119), creating a chaotic, buzzing, granular texture inside a single 16th-note step. Delta acts as a rapid-fire threshold. If Delta is > 0.3, it fires a secondary note 3 frames later at a lower velocity. If Delta is > 0.6, it fires a tertiary note 6 frames later at an even lower velocity.

Tangle

- **Behavior:** Standard generative sequencing.
- **Delta Impact:** Introduces a probability to shift the pitch by a micro-interval of exactly +1 or -1 semitone. Turning up Delta fires high-speed (+4 and +7 semitone) arpeggio bursts within a single 16th-note step, emulating the rapid mono-chord trick of classic 8-bit sound chips.

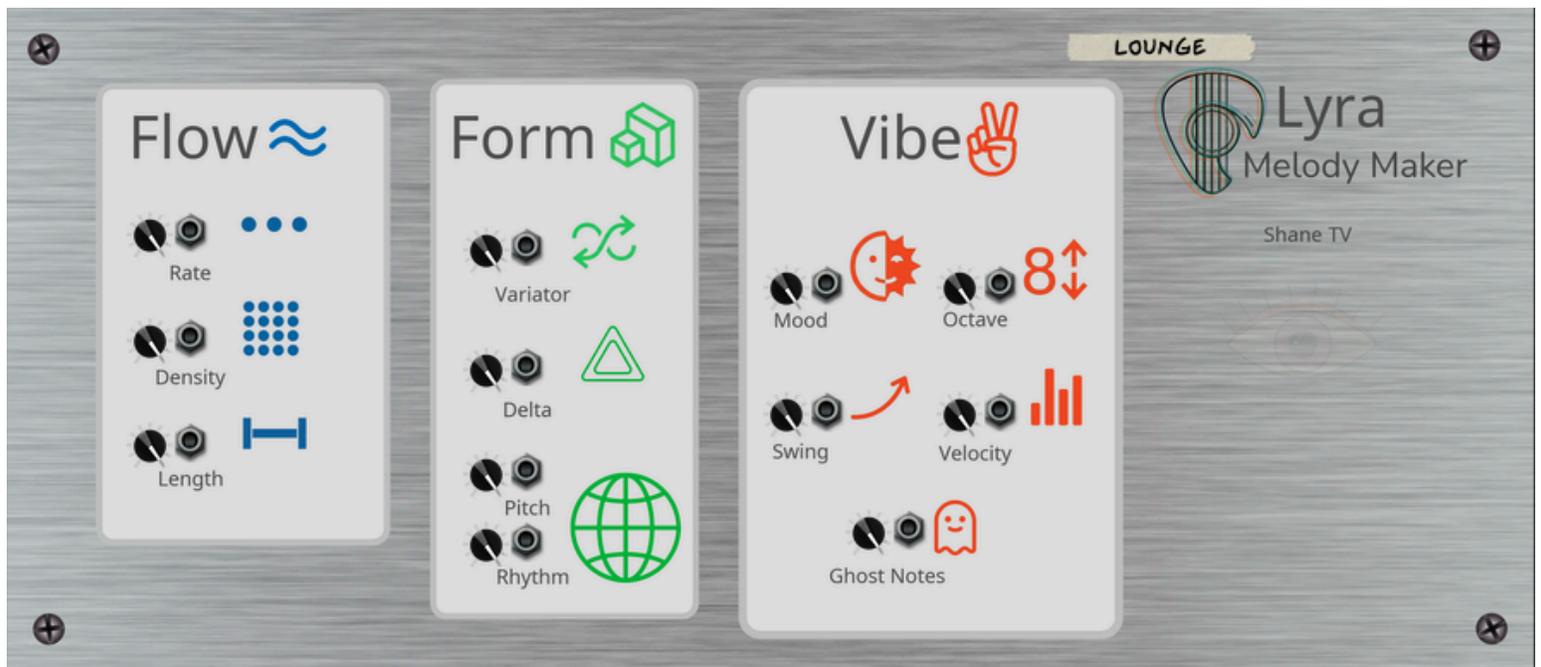
Ruins

- **Behavior:** Uses dark, dissonant harmonic Mood intervals (-4, -8, -1, 2, 8).
- **Delta Impact:** Creates an extreme probability of muting the step (up to a 95% chance to skip based on Delta), resulting in very sparse, broken melodies.

Dust

- **Behavior:** Heavily reduces density (multiplies by 0.3) and forces very low velocities between 30 and 49.
- **Delta Impact:** Introduces a probability to trigger a sudden "pop" by overriding the quiet note with an accented velocity of 90.

CV Section



Flip the rack by pressing the tab button on your keyboard. CV controls on a player device?! Welcome to the future.

CV Routing is available for Rate, Density, Length, Delta, Variator, Global Pitch, Global Rhythm, Mood, Octave, Swing, Velocity, and Ghost Notes.

Incoming CV signals will offset the current position of the front panel knobs. Try routing a slow LFO into the Variator for a melody that breathes over time, or use a Matrix sequencer to trigger the Delta input for precise, programmable glitches!

Tips and Tricks

-For producing poppy, easy listening melodies, set your density low and stick to 8th or 16th notes on the rate. Switch the triplets to step up the boldness.

-For more chaotic voices, high density, and faster rates might be just what your textures need.

-Once you have a seed that you like, it will often sound good on other voices

-Copy a Lyra patch you are enjoying onto another Lyra connected to a second instrument. Change the voice. Now you have dueling melodies that are lock-step with each other.

-Hook CV Rand Pitch or CV Rand Rhythm inputs on the back panel into a drum machine. Every time the CV signal crosses the threshold, it will jump to a new random seed, keeping a melody evolving throughout a long arrangement without manually touching the knobs.