Noise Engineering — Zularic Repetitor

- [Manual PDF](#)

[Zularic Repetitor Manual PDF](#)

Using Zularic Repetitor for Hyper-Complex, Densely Rhythmic Percussion

The **Zularic Repetitor** is an incredibly powerful trigger/gate generator module for eurorack, especially if you're after intricate polyrhythms, uncommon time signatures, and evolving percussion. Here's how you can leverage the full complexity of this module in your rack:

1. Understanding the Rhythmic Engine

- **Mother Rhythms:** The ZR is based on 30 historic world rhythms (African, Indian, Latin, Funk, Rock), each with four parts (Mother and three Children).
- **Child Offsets:** Each Child output can be offset in time **per beat**, using either knob or CV—which is like shifting part of a drum set against the others.
- **Pattern Banks:** Switch between Old World (Afro/Indian) and New World (Funk/Latin/Rock) grooves for dramatically different rhythmic palettes.

2. Creating Dense & Complex Polyrhythms

A. Layer and Offset

- Patch the four outputs to different percussive voices (kick, snare, hihat, rim, etc.).
- Use the **Child knobs** to deliberately offset rhythm parts, creating internal polyrhythms (e.g. one voice at the start of the measure and others offset by one or more steps for cross-rhythms).
- Add **CV modulation** to the Child inputs from a slow LFO, stepped random, or sequencer to create ever-shifting patterns.

B. Exploit External Clocking

- Clock the ZR with a base clock—then use clock multipliers or dividers upstream to experiment with non-standard time bases.
- Feed highly divided clocks into the Child CV inputs for bursts of micro-polyrhythmic movement: "Child every 64 beats" as suggested by the manual.

C. Cross-patching for Polymetric Fun

- Use separate sequencers or random gates to hit the **Measure** input, "throwing the ZR off" and resynchronizing on odd boundaries for polymetric chaos.
- Patch the outputs into logic modules (OR, AND, XOR) to combine ZR rhythms with other gate/trigger sources.

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3. Achieving Out-of-the-Box Time Signatures

- Select patterns in the Old World bank—many are based on *non 4/4* traditions (e.g. African, Indian Tala).
- Use the random and divider modes for generating rhythms outside the usual strong-weak pulse.
- Resample or syncopate by resetting the Measure input at non-standard intervals.

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4. Making Percussion Punchy & Unique

- Use the six-volt gate outputs to trigger not just envelopes, but other rhythmic processors (gate-delays, burst generators, switches, etc.).
- Modulate the Mother rhythm itself with sequencers or stepped random CV to morph the rhythmic root on the fly.
- Chain several ZR outputs through envelope/VCA or LPG circuits for dynamically shaped percussion.
- Combine with probability skippers, accent generators, and Euclidean sequencers for ultra-detailed patterns.

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5. Advanced Ideas for Unique Sound Design

- Run one or more Child outputs into unusual percussive voices (FM modules, VCAs with random CV, no traditional drum sounds) for experimental rhythms.
- Output gates to external synthesizer voices for percussive melodic stabs.
- Feed back one Child output as a rhythmic clock for another modulation source (LFO reset, envelope trigger, etc.) for self-modulating rhythm structures.
- Set up ZR's random probability modes for stochastic percussive sequences—modulate the probability CV for controlled mayhem.

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6. Additional Manual-Based Techniques

- Use the ZR as a *CV-controllable divider* for live performance breakdowns/switchups. The divider can be voltage controlled for polymetric switching in real time.
- Patch multiple ZRs together, or combine with other trigger/gate pattern modules for super-dense grids.

Patching Example

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 Master Clock ---> ZR Beat Input
ZR Mother Out ---> Kick
ZR Child 1 Out ---> Snare (CV offset modulated by LFO)
ZR Child 2 Out ---> Hi-hat (CV offset modulated by another pattern'
ZR Child 3 Out ---> Perc (CV offset modulated by slow random)

ZR Measure <-- Randomized reset gate for forced rhythmic shuffles
All ZR outs --> Logic OR module --> Sync different drum machine sec
```

Manual Reference:

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Generated With Eurorack Processor:

https://github.com/nstarke/eurorack-processor