

Zlob — Triple Cap Chaos

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Using the Zlob Modular Triple Cap Chaos for Dense, Hyper-Complex Percussion

The **Triple Cap Chaos** is a 2hp chaos-based analog oscillator and audio mangler. It's uniquely suited to generating unpredictable, rich audio textures and pseudo-rhythmic elements through its chaotic attractors, audio-rate oscillation, and audio/CV mangling capabilities. Let's break down how you can exploit its features for generating dense, polyrhythmic, and highly percussive sequences in a Eurorack setup.

Module Type:

Primarily an Audio Source & Mangler/Processor

- Not a traditional voice or effect, but chaotic oscillator with audio/CV processing abilities.

Techniques for Hyper-Complex Percussion

1. Percussive Voice Creation Using Audio Outputs (X & Y)

- **X Output:** Sinusoidal, noisy, “windy” textures—can form the basis of snare-like or metallic percussion.
- **Y Output:** More squared-off, harsh/aggressive—great for kicks, claps, or highly electronic percussive hits.

How to use for punchy, unique percussion: - **Short EG or VCA:** Trigger the X or Y outputs with short envelopes through VCAs for sharply defined, punchy percussive hits.

- **Randomized Triggers:** Use a clock divider/multiplier and trigger the EG/VCA at different rates for automatic polyrhythms. - **Layering:** Combine both X and Y outputs to form composite drum sounds with organic top end/noise and a beefy fundamental.

2. Audio/CV Mangling for Evolving Patterns

- **IN Jack:** Feed drum machine, oscillator, or existing modular percussion through the AC-coupled input.
- As the "IN" interacts with the chaotic core, it generates heavily modulated, shifting timbres and tones.
- **External Modulation:** Patch complex LFOs, stepped random voltages, or sequencer channels to "CV IN" (expects -5V to +5V). This disrupts the normal chaos and steers the resulting signal into even wilder, more unpredictable pulses and waveforms.

Patch Ideas: - Send a simple drum loop or repeating synth line into the IN and modulate Width/Emanate with polyrhythmic/irregular CV sources (from a Pamela's New Workout, Zadar, Maths, etc). - Use rhythmic clocks or gates at different divisions or from Euclidean/sequencer modules to modulate the chaos parameters for complex, evolving syncopations.

3. Polyrhythm & Complex Time Signatures

- **Voltage-Controlled Chaos:** Using the CV input, feed in rhythmic, stepped CV (from a melody sequencer or trigger-to-CV converter at different clock rates).
- This makes the chaos evolve at unrelated time signatures from the main clock, overlaying random, rhythmic bursts on top of the expected meter.
- **Divide/Multiply Triggers:** Use the Triple Cap Chaos' X or Y output as an audio-rate clock source (run through an envelope follower or comparator) to extract gates/triggers, then use these for triggering percussive voices in unusual rhythms.
- **Sync Your System to the Chaos:** Pass the X or Y output through a clock extractor module (e.g., Mutable Instruments Peaks,

Pamela's New Workout clock input) and sync sequencers or clock dividers to the chaotic output for organically evolving, non-repeating complex patterns.

4. Sound Shaping for Percussive Emphasis

- **Emanate Knob (Spectrum/Activity):**
 - CCW = more chaos = more gnarly, noise-based percussion and wild sample & hold artifacts.
 - CW = more stable oscillation = tight, almost FSK/Buchla drum tones.
 - **Width/CV Att:** Fine-tune the chaos/oscillation to sweep the sound into more tonal or sharper, more digital/bitcrushed realms—ideal for hats, claps, digital percussion splashes.
 - **Fast Short Envelope Modulation:** Patch velocity or accent envelopes to the CV input to accentuate certain hits/passes, adding hyper-dynamic, punchy variation to the stream of sound.
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Creative Patch Example:

Chaotic Bongos with Polyrhythmic Modulation

- Patch X output through a VCA, envelope the VCA with different-length clocked triggers (e.g., 3-step and 5-step divisions for polyrhythm). - Modulate Width with slow LFO or stepped sequencer at yet another unrelated division. - Feed Y output through a wavefolder or lowpass gate for “woodier” percussion layers. - (Optional) Feed a syncopated sequence or another random CV to IN for evolving chaos, bringing random grain or “flam” to the hits.

Quick Summary Table

Feature	How to Exploit Percussively
X Output	Windy/noisy metallic, hats/snare/percussion layers

Feature	How to Exploit Percussively
Y Output	Aggressive, squared-off claps/kicks/electronic drums
IN (Audio/CV)	Chaotize loops/drums, impose chaos on incoming signal
CV Input	Modulate chaos for polyrhythm, time-shifted pulses
Emanate & Width Knobs	Sweep between unstable/chaotic and tone-like sounds

Final Notes

- **Experiment with feedback:** Try patching audio or CV from Triple Cap outputs back into its IN or CV input for even more self-organizing complexity.
- **Non-repeating patterns:** The chaotic core ensures no two passes are identical—great for glitch and complex IDM, breakcore, experimental techno, etc.

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