

Doepfer – A-121-3

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[Doepfer A-121-3 12dB Multimode Filter Manual \(HTML; no official PDF\)](#)

Using the A-121-3 Multimode Filter for Dense, Rhythmic, and Complex Percussion in Eurorack

The **Doepfer A-121-3 12dB Multimode Filter** is a highly compact and versatile multimode filter. You can use this module not only as an effect, but also as a unique drum/percussion voice by exploiting its self-oscillation abilities and its wide, voltage-controlled cut-off and resonance.

Key Features for Percussive & Rhythmic Patch Ideas

- -12 dB/octave Multimode (LP, HP, BP, Notch) Simultaneous Outputs
 - Voltage-Controlled Cut-off and Resonance (Q)
 - Self-oscillates for sine percussion
 - Manual input level, filter Freq, resonance controls
 - Compact 4HP
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Techniques for Rhythmic, Polyrhythmic, and Complex Percussion

1. Percussive Filtering for Dense Rhythms

- **Patch Variation:**

Run complex drum or noise sources (digital or analog) into the audio IN of the A-121-3.

Use fast, percussive envelopes (from clocked modulation sources) into CV1 and/or CV2 (with attenuator) to rhythmically modulate cut-off.

- The two FM inputs allow you to layer envelopes (e.g., hi-hats with sharp, quick mod; toms with slower, variable CVs)
- Stereoize drums by using LP for one side, HP for another, morphing filtered signals using panning.

2. Polyrhythmic Resonance Modulation

- **Modulate Resonance (Q):**

- Use triggers from odd divisions (e.g., 3/16, 7/16) to periodically open up resonance just on certain drum accents. The CQ input is not attenuated, so use external attenuators or bipolar offsets for subtle changes.
- Pair this with sequencers or function generators set to different clock divisions for immediate polyrhythmic results.

3. Self-Oscillation for Sine Percussion

- When you turn up the Q to self-oscillation, the filter produces a stable sine.
- **Kick Drums:** Use a trigger or short envelope on the cut-off CV, and use Level to saturate/clipping for punch. Extra drive (input level past 5) makes for snappy, clicky drums.
- **Toms/Bells:** Patch a sequencer or random stepped CV for cut-off, pair with short/long envelopes for pitch decay, and hit the filter with polyrhythmic gate sequences. Resonance modulation acts like FM, yielding zappy, metallic percussive hits.

4. Notch/Bandpass for Unique Percussive Tones

- Layer several filter outputs (LP, BP, HP, Notch) through VCAs, each triggered by a different rhythm—create complex, dynamic timbres.
- Notch output gives hollow, phasing "blips" great for glitch percussion or layered with hats/claps.

5. Input Overdrive for Punch

- Increase the Level knob past 5 for intentional distortion/clipping, especially useful for making anemic drum sources hit harder.
- Create variation by CVing the input Level via external VCA, under control of burst/gate patterns for rhythmic distortion.

6. Clock/CV Modulations for Hybrid Drum Machines

- Use LFOs, stepped randoms (Sample&Hold), or fast, euclidean rhythms as modulation sources for CV1/CV2.
- Combine with analog logic processors: AND, OR, XOR complex trigger sources into bursty cut-off modulation.

Patching Example: "Polyrhythmic Filter Percussion"

Drum Source (or White Noise) → A-121-3 AUDIO IN

Polyrhythmic Envelope 1 (3/16 clock) → CV1 (cut-off FM)

Polyrhythmic Envelope 2 (5/16 clock, slower) → CV2 (attenuate w/ FC
Euclidean/Random Gates → CQ (external attenuator or offset module f

Mix and layer LP, BP, and Notch Outs → Multiple VCAs → Stereo Mixer
Each out is VCA'd with another rhythm – instant cross-rhythmic perc

Crank Q to max > Self-oscillation: Patch triggers (1, 2, 3, 5 beat

Tips for Punchiness and Uniqueness

- Use audio-rate modulation into CV inputs for metallic, "FM percussion" effects.
 - Stack filter outputs with slight delay or phase offset for "slapback" snare/hats.
 - Routinely overdrive input and modulate resonance for transient smacks and spectral sweeps that cut through dense mixes.
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Summary Table

Output Types	Use for	Rhythmic Ideas
LP	Kicks, toms, bass	Envelope pitch + decay, clocked Q sweep
HP	Snares, hats, rims	Fast LFO/Env on cut-off, CV w/ burst patterns
BP	Wood/metal clacks	Quick decay, polyrhythmic mod, layering
Notch	Zappy Fx, claps	Euclidean Q mod, crossfade w/ hats or snare mix

Manual Link

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