

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.

Summary Table

Output Types	Use for	Rhythmic Ideas
LP	Kicks, toms, bass	Envelope pitch + decay, clocked Q sweep
HP	Snare, 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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