

Korg — Volca FM2

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Korg Volca FM2: Creative Modulation Strategies for Eurorack Musicians

The Korg Volca FM2 is not a direct Eurorack module, but its highly flexible FM engine can be integrated into a modular setup for wild, unique sound design—especially via MIDI, clock/sync, and audio routing. Here's how you can achieve distorted percussive sounds, basslines for genres like dubstep/DnB, and haunting atmospheric pads by modulating this FM synthesizer.

Quick Reference: Modulation & Connectivity

- **Sync In/Out:** Sync the Volca FM2 to your modular clock or use its clock output to drive modular sequencers.
 - **MIDI In/Out:** Extensive MIDI control over parameters (via external MIDI modules or eurorack-to-MIDI interfaces).
 - **Motion Sequencing:** Record parameter movements for evolving sequences.
 - **Multiple Voices & Operators:** Deep FM editing for modulation and complex textures.
 - **CV to MIDI:** Use eurorack CV-to-MIDI modules to control FM parameters in real time.
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1. Distorted Percussive Sounds

Key Concepts: - Fast EG (Envelope Generator) attacks & decays - Overdriven modulation indexes - Sequenced operator modulation for rhythmic textures

How-To: - Sharp Envelope Settings:

- Set MODULATOR and CARRIER **attack and decay** knobs to minimum for super-snappy transients. - Use the built-in sequencer or MIDI triggers to play short, percussive sequences.

- **Operator Feedback for Distortion:**

- Edit FM algorithms to maximize feedback. Algorithms with operator self-feedback create more harmonics and can sound distorted.
- In EDIT mode, experiment with feedback parameters—crank them for harsh metallic or noisy percussion.

- **Motion Sequencing:**

- Record distortion-inducing movements on your operator envelopes and feedback during the sequence.
- Use FUNC + MOTION SEQUENCE ON to capture real-time knob tweaks for glitchy, mangled rhythms.

- **External Distortion:**

- After output, route the Volca FM2 into a wavefolder, distortion, or bitcrusher eurorack module for even more aggressive drum hits.

2. Crazy Basslines (Dubstep/Drum & Bass)

Key Concepts: - FM for growls and wobbles - Quick, extreme MODULATOR/CARRIER parameter changes - Real-time modulation (via MIDI or Motion Sequence) - Velocity & envelope shaping

How-To: - Wobble Bass:

- Assign LFO (RATE and P.DEPTH) to pitch or index modulation for classic

wobble. - Use Motion Sequence to automate the movement of the LFO's RATE while the sequence plays—this gives “talking” or formant bass FX.

- **Growling Bass:**

- Use complex FM algorithms (8, 21, 23, 27, etc.) with multi-stage operators feeding into each other.
- Modulate FM index and carrier levels for “wet” bass dynamics.

- **MIDI/CV Control:**

- Use a CV-to-MIDI module (like Mutable Instruments Yarns, Expert Sleepers FH-2, etc.) to map Eurorack LFOs or envelopes to MIDI CC messages controlling LFO rate, feedback, velocity, or algorithm selection.
- Map your modulation sources to the pitch or operator envelope parameters via MIDI Learn or DAW automation.

- **Transient Variation:**

- Use the internal sequencer to vary note velocities (VELOCITY slider), and record that motion for dynamic accents typical of DnB/dubstep.

3. Haunting Atmospheric Pads

Key Concepts: - Slow attack/release on envelopes - Subtle LFO modulation
- Motion Sequence for evolving timbres - Layering internal FX (chorus, reverb)

How-To: - Envelope Settings:

- Set MODULATOR and CARRIER ATTACK/DECAY to medium-high for slow, swelling pads. - Layer long-release times for pads to “bleed” into one another.

- **Chorus & Reverb:**

- Activate chorus (FUNC + CHORUS) and reverb (FUNC + REVERB) for rich stereo depth.

- Adjust chorus/reverb levels with FUNC + ARP TYPE (Chorus) and FUNC + ARP DIV (Reverb).
 - **Modulate Algorithms:**
 - In EDIT mode, Motion Sequence slow sweeps of the algorithm or feedback parameters for constantly-shifting harmonic content.
 - **Sync & Layering:**
 - Sync Volca FM2 to a slow external clock. Sequence chords or drones with eurorack MIDI control.
 - Stack several motion-sequenced pad programs in a CHAIN to create sustained, evolving ambient soundscapes.
 - **Atmospheric FX:**
 - Use FUNC + PROGRAM RANDOM to occasionally randomize sound programs for weird, evolving backgrounds—in a controlled, sparing manner for “ghostly” layers.
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Extra Patch Ideas/Integration

- **Layering:**

Use the Volca FM2 as a voice in a multi-timbral setup with other Eurorack sound sources. Layer its digital FM with analog VCOs for hybrid textures.
 - **Realtime Performance Tweaks:**

Exploit the Touch Keyboard to inject pitch runs, trills, or glissandos amidst modulated sequences for more humanized, expressive performance.
 - **Sample and Reprocess:**

Record Volca FM2 output, slice up in a sampler, and trigger with percussive sequencers—or pipe back through resonant filters, granular FX, etc.
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Tips When Integrating with Eurorack

- You *must* convert your modular signals—use MIDI or clock interfaces, as the Volca FM2 does not have native CV inputs.
- To control program parameters from Eurorack, use a MIDI-to-CV converter capable of automation or CC transmission.
- Consider battery or isolated power to avoid ground loops when integrating with large Eurorack rigs.

For detailed MIDI CC mappings and parameter explanations, [download the full Korg Volca FM2 manual here \(PDF\)](#).

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