Xaoc Devices — Batumi

- Manual PDF

Xaoc Devices Batumi II & Poti II Operator's Manual (PDF)

Using Batumi II & Poti II to Create Full Length Songs in Eurorack

As a modular synth musician, one of the most common creative hurdles is turning a solid loop—drum groove, bassline, melody—into a **composition that evolves over time**. The Xaoc Devices **Batumi II** quadruple LFO (and the optional Poti II expander) is designed to be more than just a "modulation source." Its synchronization, phase manipulation, multiple outputs, assignable waveforms, and individual channel CV control make it a **powerful song-structuring instrument**. Below, I'll present concrete techniques and patching ideas to help you use Batumi II to turn creative fragments into **full length, dynamic tracks**.

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1. Master Modulation Clock and Transitions

Batumi II can function as the "brain" of your patch, keeping various musical elements in sync or subtly shifting them to create evolving arrangements.

Song Structure Macro-Modulation

- **Free/Phase/Divide/Mult Modes:** Set Batumi II to divide or multiply, then use its channels to distribute time-related CV to:
    - **VCA/LPGs** for fades, mutes, or evolving timbres.
    - **Filter cutoff** for gradual timbral shifts between sections.

    - **Sequencer reset or direction** (reset/sequencer stepping): Reset the start point of melodic/rhythmic phrases at big transitions.
- **Master Clocking:** In *mult* mode, one channel can advance a sequencer at standard tempo (e.g., 1/16th notes), another can send a signal every 32 steps to introduce fills, break sections, or transitions.
- **Global Transitions:** Use the **reset/sync inputs** on Batumi II to re-align all LFOs with a clock, trigger abrupt changes, or real-time "DJ-style" drops and returns.

Morphing States (Dynamic Arrangement)

- Send Batumi II's **random or phase-shifted waves** to:
    - **Waveshaper or distortion CV** for phrases that rise in intensity over multiple bars.
    - **Reverb or delay wet/dry CV**, fading FX in/out over time.
    - **End-of-cycle gates** (from other slew or logic modules) to automate scene changes every few minutes.

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2. Polyrhythms and Evolving Rhythmic Structures

One of the most powerful song-building techniques in modular is **polyrhythm and phase manipulation**.

- **Divide/Multiply Modes:** Have Batumi II produce different subdivisions/multiplications from a master clock:
    - Channel A: 1x (main rhythm)
    - Channel B: /3 (triplets or 3-bar pattern)
    - Channel C: /5 (odd meter or cross-rhythm)
    - Channel D: x4 (fast fills or ratchets)
- Use these outputs to trigger drum voices, envelope resets, or rhythmically mute/unmute voices for song sections that *push and pull* against each other, creating **textural variety over time**.

Evolving Drum Patterns

- *Phase mode*: Use the phase offset per channel to subtly rotate rhythmic elements (e.g., analog-triggered percussion) across the stereo field or as rhythm "shifting" fills.
- *Reset inputs*: Re-synchronize polyrhythmic elements at key song moments for impactful transitions.

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3. Long-Form Timbral/Tonal Automation

Batumi II's **slow rates (as slow as 0.00001 Hz!)** allow you to automate macro-level musical changes over several minutes, not just seconds.

- **Voices/OSC parameter drift**: Slowly modulate oscillator waveshape, FM amount, or pitch for evolving melodies or pads that never repeat exactly.
- **Tonal Evolution**: Morph filter resonance/cutoff, wavetable position (if using digital oscillators), or crossfader positions between sound sources for cinematic builds.
- **Random Waveform Output**: Use Batumi's sample & hold or smooth random outputs to automate parameters literally for *hours* without obvious looping—great for ambient or generative pieces.

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4. Individual Song Sections Control with Poti II

The **Poti II expander** adds **per-channel CV attenuation, waveform selection, and shape modulation**. This makes scene-based song structure easy:

- **Store different attenuation and wave settings per channel** as "states" for verse/chorus/bridge sections.
    - E.g., Verse: Channel B is slow triangle modulating filter. Chorus: Channel B switches to random stepped, modulating distortion or offering rhythmic variation.

- **CV Inputs for Shape**: Switch waveform shapes for each section, or have external envelopes/sequencers control which shape is heard, changing modulation flavor as the song progresses.
- **External Automation**: Use a sequencer or MIDI-to-CV module to automate Batumi's mode/wave settings and Poti's attenuators for recallable "scenes".

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5. Self-Generating/Generative Arrangements

Combine **Batumi II**'s outputs with **sequencers**, **quantizers**, **S&H circuits**, **switches**: - Use phase offset LFOs to clock *several* sequencers at different (yet musically-related) rates. - Use **rectified outputs** as evolving gates for random drum fills, melodic retriggers, or effect sends/returns. - CV control of waveform shape (with Poti II + Batumi II) slowly transforms modulation type—simple triangle growing more complex, morphing the flavor of your sequence over the length of the piece without manual intervention.

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6. Patching Examples

- **Building Blocks:**
  - Ch. A (Batumi, sine, slow): Modulate master lowpass filter for global tone sweeps.
  - Ch. B (Batumi, step random, medium): CV into VCA for tremolo on melody.
  - Ch. C (Batumi, downward saw, divided): Clocking random S&H for evolving hats or percussion.
  - Ch. D (Batumi, rectangle, multiplied): Triggers for snare rolls or fill generator module.
- **Using Reset Inputs:**
  - Patch a performance controller or footswitch (or DAW clock) to reset all Batumi channels at "drop" points for coordinated scene changes in your arrangement.

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7. Expert Moves

- **Audio-Rate "Utility" Oscillators**: Batumi has V/Oct tracking and audio-rate range—use as *FM operator*, audio-rate modulator, or even a sub-oscillator. Automate which channel is audio-rate during different song sections!
- **Interactive Live Performance:** Change Batumi's mode mid-set (free → phase → divide → mult) to introduce dramatic changes in how all downstream modulations function.

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8. Tips for Integrating with Other Modules

- **Sequencers (ALM Pamela's Pro Workout, Intellijel Metropolix, etc.):** Sync Batumi's resets to sequencer start/stop for bar-accurate modulation.
- **Logic/Random (Mutable Marbles, Doepfer A-160-2):** Combine Batumi gates and LFOs with logic to drive pseudo-random but bounded musical events.
- **Switches or Sequential Addressing (Doepfer A-151, Mutable Branches):** Have Batumi outputs crossfade or switch modulations between multiple destinations—a powerful tool for live arrangements.

Conclusion

Batumi II (with **Poti II**) is an extraordinarily **powerful macro- and micro-arrangement tool**. By leveraging its multi-channel, syncable, phase-shifting LFO design, you can not only modulate simple parameters but construct full musical narratives—introducing true *song structure* and *evolution* to your modular performances.
