

2hp – Bell

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[2hp Bell Manual PDF](#)

Using the 2hp Bell for Complex, Densely Rhythmic, and Hyper-Complex Percussion in Eurorack

The 2hp Bell is a **polyphonic melodic percussion generator** based on modal synthesis, best suited as a voice module in your Eurorack setup. Its strengths for the creation of intricate percussion lie in its wide model selection, CV-controllable parameters, and ability to sharply articulate or drastically dampen metallic sounds. Here's how you can leverage it for advanced, rhythmically dense music making:

Strategies for Generating Dense, Complex Percussion

1. Exploit Polyphony & Fast Retriggering

- **6-Voice Polyphony** lets you layer overlapping rhythms—send multiple triggers in fast succession (using clock dividers/multipliers or burst generators) to saturate the sound with metallic, bell-like percussion to create textural “clouds.”
- Pair with eurorack sequencers or trigger modules (like Euclidean sequencers, or Varigate) programmed with polyrhythms (e.g., 5 against 4, 7 against 3) for wildly complex results.

2. Create Polyrhythms and Complex Patterns

- Patch several out-of-phase trigger generators (e.g., Pamela's New Workout, Zularic Repetitor, or logic gates combining triggers from different clocks) into the **TRIG** input.
- Use probability or conditional triggers for evolving patterns; let the Bell's voices “overlap” at odd intervals for density.

3. Use Model CV for Rapid Timbre Shift

- Patch stepped random, sequenced, or rhythmic CV into **MODEL** to “flip” between physical models (vibraphone, marimba, bowl, etc.) in sync or off-sync with your rhythm, keeping timbre in motion as your patterns evolve.
- Bipolar CV (-5V to +5V) allows tight or wild sweeps—use slow modulation for gradual evolution or audio-rate for pseudo-FM metallic clangs.

4. Modulate Damp for Percussive Variation

- Assign envelopes, random, or stepped modulation to **DAMP**. A tight envelope means crisp, short hits; a slow one gives hanging, resonant decays.
- Change decay characteristics per trigger for dynamic groove and mutating tail lengths—essential in complex, humanized percussion.

5. Sequence Pitch and V/Oct for Melodic Percussion

- Drive **PITCH** and **V/OCT** with a sequencer to create tuned percussion arpeggios.
- For pitch slides, use slewed CV or LFOs; combine quantized melody lines with unquantized microtonal variance for complexity.
- Interleave melodic sequences with rhythmic triggers for tone clusters and bell-chords in odd rhythms.

6. Further Processing for Punch and Character

- Multi-patch Bell outputs to wavefolders or distortion modules for harsher, more aggressive hits.
 - Route through dynamic processors (VCAs/envelopes) or rhythmic effects (delays set to non-standard clock divisions) for additional pattern complexity.
 - Layer Bell with traditional drums for punch, using its timbral sharpness to accentuate or contrast other percussive layers.
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Example Patch for Complex Hyperpolyrhythm

Modules: - Pamela's New Workout or Temps Utile (polyrhythmic triggers) - Turing Machine or random CV source (for unpredictability) - Quantizer (for V/Oct sequences)

Patch idea: 1. Patch several independent clock divisions/multiplications to Bell's **TRIG**. 2. Sequence **MODEL** with random CV and quantize to force model changes on every 3rd/5th/7th hit. 3. Use envelope with random length or a burst from a logic gate to **DAMP** for evolving decay. 4. Generate melody for **V/Oct** using a rotating quantized sequence, clocked at a prime division relative to the main rhythm. 5. Feed Bell output to a VCA controlled by another envelope or dynamic processor for punch. 6. Patch output through a wavefolder or distortion for metallic aggression.

Manipulating for Unique, Punchy, and Percussive Sounds

- **Short Damp, Sharp Envelope:** For in-the-pocket high-clarity percussion, combine very short decay with punchy envelopes downstream.
- **Switch/Randomized Models:** Use sample & hold or random CV to force the Bell through different metallic objects in sequence or at unpredictable moments.
- **Fast Retrigger:** Overlap triggers <50ms apart for granular metallic shimmer.

- **Audio-rate Modulation:** Modulate **MODEL** or **DAMP** at audio rates for unnatural, digital clangs and “cyborg” chimes.
 - **VC Mixer:** Mix Bell with other percussive modules and stereo pan/ring modulate for further density/complementation.
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For deep, unpredictable, and richly layered techno, breakcore, IDM, or generative percussion, the Bell's combination of **polyphony, modulation destinations, and physical modeling** makes it a miniature powerhouse.

[Generated With Eurorack Processor](#)