

# Frequency Central – Wonderland

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## Creative Sound Design With Frequency Central Wonderland

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As a fellow Eurorack musician, I've taken a close look at the Wonderland module's documentation and here's how you can use (and abuse) this powerful 8x8 patchbay/matrix mixer for sound design—especially for aggressive percussion, heavy basslines, and atmospheric pads typical of dubstep, drum and bass, and cinematic genres.

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### Core Capabilities Recap

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- **8 inputs** (each with a *micro-attenuator*)
  - **8 normal outputs + 8 inverted outputs** ( $180^\circ$  *out of phase*)
  - **64 pushbutton switch matrix:** freely route any combo of inputs to any outputs, with possible mults, sums, and inversions
  - **Miniature input attenuators:** support gain staging and deliberate distortion
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### 1. Distorted Percussive Sounds

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#### Technique:

Leverage matrix mixing to *stack multiple percussive sources to a single output*, creating intentional clipping/distortion via the summed signal level.

Use normal and inverted outputs to reinforce or cancel elements, and micro-attenuators to fine-tune distortion character.

- Connect several drum modules or short, snappy synth blips to multiple Wonderland inputs.
- Route them to one output via multiple engaged switches (e.g., Inputs 1, 3, 5 → Output A).
  - Turn the attenuators higher to intentionally overload/clipping the output—Audible distortion = edgy percussion!
- Take inverted outputs to a separate VCA, then mix with normal outputs for dynamic phase-cancelled “rip” effects.
- For extra grit: Take the distorted output and send it into a wavefolder/waveshaper, or back into your modular FX chain.

**Pro tip:**

*Don't forget to experiment with routing and blending outputs back into other inputs for quick, no-cable feedback paths!*

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## 2. Crazy, Modulated Basslines (Dubstep/Drum & Bass Style)

**Technique:**

Achieve wild, modulated bass by combining several different oscillators/waveforms (e.g. sine + saw + noise) into a single output. Use inverted and normal outputs simultaneously for stereo or mid/side tricks, or route one signal to both normal and inverted outputs for “hollow,” toothy sounds.

- Input Sub-oscillator, main bass osc, and noise source to different Wonderland inputs.
- Send all three to one output for a thick, layered signal.
  - Add envelope or LFO-modulated attenuation using the Wonderland's micro-attenuators for dynamic movement. (Or modulate attenuators externally by carefully wiggling or swapping voltage sources if hardware allows.)

- Patch inverted output to a filter or VCA, then crossfade/mix with the normal output for evolving phase changes—a trick for morphing bass timbres.
- Mult the output into other processors (bitcrusher, distortion), then re-sum back into Wonderland along with dry signal for parallel processing within the mixer.

**Pro tip:**

*Use Wonderland as a switch matrix live: tap in or out different waves/noises with the pushbuttons for “instant drop” effects and ever-changing bass tone.*

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### 3. Haunting, Atmospheric Pad Sounds

**Technique:**

Create evolving textures by routing multiple slow, droning sound sources with lots of modulation (e.g. LFOs, slow envelopes, random voltage) through the matrix. Sum and cross-phase the outputs, and experiment with attenuator positions for subtle movement.

- Send several subtle, evolving sound sources (FM drones, field recordings, reverb returns) to Inputs 2, 4, 6, and 8.
- Assign each to a range of outputs, spreading textures across the matrix.
  - Engage both normal and inverted outputs—pan one left, pan the other right for *supernatural stereo width* by mixing in and out of phase signals.
- Use the micro-attenuators to set just the right blend—low/no distortion, but rich sum textures.
- Patch returns from modulation or FX processors (tape delay, granular) into more matrix inputs for feedback atmospheric layering.
- Swap patch button combos during a performance for ghostly, morphing landscapes.
  - Disengage certain buttons suddenly to “hollow out” the pad.

### Pro tip:

*Automate (by hand) the switching matrix during performance for polyrhythmic, ghostly rhythmic movement in pads and drones.*

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## Advanced Ideas

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- **Feedback Chaos:** Route an output back to a free input for internal feedback loops—start with the micro-attenuators low and introduce drone or shrieking FX as you slowly raise attenuation.
  - **CV Processing:** Although designed for audio, Wonderland could process CV, letting you combine or invert modulation sources for evolving filter/oscillator control.
  - **Live Remixer:** Use pushbuttons to “remix” your input sources live—instantly jump between percussion, bass, and pad-focused textures.
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## Reference

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- [Frequency Central Wonderland Manual \(PDF\)](#)
  - [Generated With Eurorack Processor](#)
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Let your creativity loose—it's not just a patchbay, it's a playground for radical modular sound design!