SPECTRAL MULTIBAND RESONATOR
Resonant filter with quantized morphing frequencies

The **Spectral Multiband Resonator** from 4ms Company is an innovative resonant filter which can process audio like a classic filter bank, ring like a marimba when plucked/struck, vocode, re-mix tracks, harmonize, output spectral data, quantize audio to scales, and much more... A gorgeous ring of colored lights displays the frequency of each filter, as well as the levels and current scale selection(s).

At a glance, the SMR works like a normal six-band graphic EQ: six frequency band-pass filters are mixed together using sliders. Resonance/Q is variable, which changes the "ringy-ness" or width of the bands.

But here's where comparison stops. The frequency of each channel is treated like a note in a scale, and the six bands form a chord. Spin the Rotate knob and the "notes" circle around the scale, rotating back to the bottom once they've reached the top. Adjust Spread and the distance between each note changes. Triggers for up/down motion, CV inputs for sequencing, and scale selection allow for flexible control with external modules. Variable Morph and Slew parameters let rhythmic clocks drive the SMR as a variable-speed evolving resonant filter.

At maximum Resonance/Q, the SMR can be struck like a gong or marimba. The frequency of each channel is quantized to a scale: beautiful chords, ethereal tones and eerie ambiance flows easily. With lower resonance, the SMR can pull out particular frequency bands, and sweep these across the spectrum.

Features:
- Six filter channels, selected from twenty active filters displayed on the light ring
- Variable "Q" (Resonance) ranges from classic band-pass to ultra-resonant ringing
- Stereo ins and outs stagger the bands into evens/odds for an immersive stereo field
- Spectral content outputs for each channel (Env Out) allow for vocoding (spectral transfer)
  - Three selectable envelope speeds help with locking to a beat
- Sliders and CV jacks control each filter's level
  - Variable Slew can be applied to CV level jacks to prevent clicking from clocks or triggers
- Ring of 20 full-color lights displays the filter frequencies
  - Filter frequencies move about the scale using Rotation and Spread
  - Rotation "spins" the frequencies around the scale
  - Spread controls the gap between neighboring bands
  - Morph creates a variable speed cross-fade when the filter frequencies change
  - Lock buttons prevent each channel from changing in frequency or resonance
- Freq Nudge fine-tunes a channel to hone in on an exact frequency
- Each bank has 11 scales of 20 frequencies/notes each
  - Pre-programmed banks such as Western, Indian, Microtonal, etc...
  - Rotation/Spread moves about an entire bank, or can be limited to a single scale
- White noise is normalized to the inputs, so the SMR can be used without an external signal
- A plethora or CV and trigger input jacks
- 26HP Eurorack module

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www.4msCompany.com