

SE88 FILTER (and Dual Pendulum Chaos Generator) - \$339

Our version of the boxy, Blade Runner-sweet and Boomstar-brash dual mode CS80 filter, initially married to the Omega Series Synths, and then tucked-in the 'Stars, now joins the Modstar Collective. We've twisted and turned the **SE88** to unflatten the earth, so to speak; the original CS80 fed a HP filter into a LP filter, but with the SE88 you can select **MODE 1's** **HP** or **BR** to feed **MODE 2's** **LP** or **BP**, or patch it to reverse that pleasant path. The audio signal is completely controllable with input and output levels for each filter. Cherish and respect your filter's input gain stages, for a smooth yet often brassy sound—shed your mercy to strike hard for boiling, snarling bite, even to the blackout/cutout point (see **Greg St. Regis**, **Tim Caswell**, and **Marc St. Regis**' **SEM filter commentary for a detailed diatribe on this "feature too far"**); then and only then, uniquely blend mode settings for the filter family values you revere.

To get things merrily modulating, each filter employs attenuverters for frequency and resonance experimentation and decimation. While the **SE88** does not self oscillate (Yamaha's creation didn't either), we did amp up the resonance level for full-throttle squelching. An additional master FM (frequency modulation) attenuverter-controlled level can feed both filters (when hungry enough) simultaneously, and tracking switches allow for individual keyboard response for each of the contrasting and complementary filter modes.

Speaking of responses, the **Boomstar SE80** - Dual Resonant Powerhouse, features the same core filter architecture, and is our current SoundCloud play king of the hill:



soundcloud.com/studio-electronics/sets/the-se80s.

Potentiometer Potential

Five attenuverter and eight attenuation pots control the **FREQUENCY MODE 1**, **FM IN**, **FREQUENCY MODE 2**, **RESONANCE**, **M1 FM**, **RESONANCE**, **M1 RES CV**, **M2 RES CV**, **INPUT**, **M2 FM**, **OUTPUT**, **LEVEL** (M1 OUT), and **LEVEL** (M2 OUT).

Switch it Up

2/3 - 1/3 TRACK (M1), **FULL - HALF TRACK** (M2), **HP - BR**, **LP - BP**.

Patch it Up

Ten patch points: **1 V/O**, **FM IN**, **M1 FM**, **M2 FM**, **M1 RES CV**, **M2 RES CV**, **M1 IN**, **M1 OUT**, **M2 IN**, **M2 OUT**.

All Controls and Patch Points

FREQUENCY MODE 1 – Adjusts the frequency, or cutoff of Mode 1.

2/3 - 1/3 TRACK - Toggles tracking options for Mode 1.

FM IN - Adjusts the master frequency modulation input.

FULL - HALF TRACK - Toggles tracking options for Mode 2.

FREQUENCY MODE 2 - Adjusts the frequency, or cutoff of Mode 2.

RESONANCE – Adjusts the resonance of Mode 1's filter.
M1 FM - Adjusts Mode 1's frequency modulation.
RESONANCE – Adjusts the resonance of the Mode 2's filter.
HP / BR - Toggles the High-Pass and Band-Reject option.
M1 RES CV – Adjusts Mode 1's resonance control voltage.
M2 RES CV – Adjusts Mode 2's resonance control voltage.
INPUT – Adjusts the master audio input.
M2 FM – Adjusts Mode 2's frequency modulation.
OUTPUT – Adjust the audio output.
1 V/O – One volt per octave control voltage input.
FM IN – Master frequency modulation input.
M1 FM – Mode 1 frequency modulation input.
M2 FM – Mode 2 frequency modulation input.
M1 RES CV – Mode 1 resonance control voltage input.
M2 RES CV – Mode 2 resonance control voltage input.
M1 IN – Mode 1 input.
LEVEL – Level control for Mode 1.
M1 OUT – Mode 1 output.
M2 IN – Mode 2 input.
LEVEL – Level control for Mode 2.
M2 OUT – Mode 2 output.

Vitals

Size - 20hp
Depth - 39.7mm with ribbon cable attached
Power Usage - 42mA (+12 / -12)

BYSIB (Before You Send it Back)

This filter (and the SEM) can be "input driven" to the cutout/cutoff/blackout point, for angry, aggressive unpredictability, and staggered, shell-shocked recovery. We wanted it that way; it's perfectly harmless OpAmp smashing, for smashing good fun. Think traumatic movie scene after which an actor's hearing momentarily disappears (extreme wooziness overtakes the balance of his senses—and camera work), high-pitched sounds follow, and then blessed normalcy of awareness and sensory perception gradually, grudgingly return. That. No reboot necessary: just sweep the frequency counterclockwise until it snaps back to its "right mind," and rein in the input and resonance levels—resonance levels below 9:00 are safe; unless of course you want "that" to keep happening. Taunting the edge is entertaining too.

Of Special Note

Two audio paths are involved if you are running the '88 filter in series, so both input levels, and the seeded output level of the 1st stage have to be taken into consideration if a clean sound is desired—either that or keep your resonance setting below 3:00 to avoid the fireworks. This beast's resonance is wide open, with no governor in place—hot-rodded—so expect voltaged chaos when you push it past its "yama-clone" comfort zone.

* From 7:00 (0) to 9:00 our "Negative Resonance Saturation" adds beefiness, boosting the waveform amplitude and taming waveform transients; set to 9:00 to achieve the cleanest tone possible (effect most pronounced on 3003 filter).

