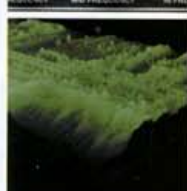


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## Radial Q3, Q4 & Tossover

Having played a big part in the resurgence in popularity of the 500 Series format, Radial has been busy adding modules to the racks.

**GEORGE SHILLING** delights in three smashing EQ-type products.

Radial has fully embraced the 500 Series format, with a choice of no less than six different PSU racks, and an ever-expanding range of their innovative and colourful modules. These are robustly constructed in Canada, all with circuitry completely encased in galvanised steel, protecting the components from dust and accidental knocks during installation, and enhancing isolation. Front panels are double layer and edge connectors are gold plated. All are compatible with standard 500 Series racks, but using them in a Radial 500 Series rack, like the Six-Pack, brings extra

features such as the bonus Omniport socket which adds unbalanced I-O for console insertion on the Q3 and Q4 and additional functions on the Tossover, plus Feed and Link switches. Radial reassuringly offers a generous three-year transferable warranty.

**Q3 EQ** — The Q3 is a passive inductor coil-based EQ with a rather novel interface. Inductor coils are the basis of units like the Pultec EQP-1A, Manley Massive Passive and Gyraf GXIV. Of course, those are all rather larger than a single 500 Series module so the control method here is a result of some clever

thinking about how to pack value and flexibility into a tiny space. Nine different coils are squeezed onto the circuit board. Three bands comprise High Boost, Mid Cut and Bass Boost. Each section's main control is a Grayhill rotary switch with 12 positions labelled 0 to 11. There are end stops, so Position 0 (bypass) is easy to find; the next 11 positions are preset curves of various shapes and frequency values.

Alongside each knob is a recessed toggle switch that is labelled Shift. These each provide a steeper curve for a more pronounced version of the selected effect, doubling the number of settings. A 100Hz High Pass Filter pushbutton is also provided. Below that is a continuous uncalibrated Gain knob to help match the post-EQ level (unity is at about three-quarters up), but actually it comes before the filter circuits so with a hot signal you can drive things for some pleasant crunching.

Finally, there is an EQ In button with accompanying green LED to show that the EQ is in circuit (although this is not a hard-wire bypass). Each band has a page of frequency curve charts in the (super informative) manual, which all looks a bit daunting. But in use, I soon forgot about all that and simply turned the knobs until I liked the sound. And I did like the sound — immensely!

The High and Low bands are a mixture of shelving, resonant shelving and bell curve boosts at different frequencies, and differing amounts of boost. The Mid band cuts various bell shapes, including some asymmetrical dips; the first two presets are actually High Cut shelf/filter settings. Settings are well chosen and all have their uses. A close and boomy yet high-pitched male vocal sounded gorgeous, open and smooth with settings of 1 (shift), 3, 8 (shift). That turned out to be a gentle high shelf boost from below 1kHz upwards, a broad dip at 400Hz and a slight boost at 350Hz. And I cleaned it all up with the filter, which sounded great.

I did sometimes sneak a peek in the manual to find appropriate settings, but often ended up with something different from what I thought would work. Well, who needs a manual to set an EQ? Some settings can be surprisingly drastic, especially the -15dB mid dips. Although having just 11 x 2 settings on each band might seem limiting, this amounts to more than 10,000 possible combinations. Although you might not always be able to make the Q3 do exactly what you think you need, there is certainly a good chance of juggling the knobs randomly and finding lovely tone for your signal.

<b>PROS</b>	This makes coil EQ affordable and quick to use; sounds gorgeous.
<b>CONS</b>	Fingernails required to flip the Shift toggles; Restricted to only 10,000+ settings(!)

**Tossover** — Stop sniggering at the back, please (*Sorry, sir. Ed*). The Tossover is a form of Crossover circuit, with variable High and Low Pass filters, running in series or parallel, making this a uniquely flexible band splitting device. If mounted in a Radial Workhorse power rack you can take advantage of the Omniport (as second output) to turn this into a two-way divider with a separate filter on each output. Or you can engage both filters to create a variable Band Pass filter. Knobs are nicely rubberised (stop it!) with clear white pointers.

The orange section at the top is the High Pass Filter (HPF) with a continuous pot with a labelled range of 140Hz to 7kHz. A three-way recessed toggle selects the Slope: 12, 18 or 24dB per octave.

Another knob is labelled Amplitude with a range of Min to Max. This is a gain knob for adjusting the post-filter level. Finally, an On button for this section is accompanied by a green LED. The green section below is the Low Pass Filter (LPF); this has a pot with a range of 80Hz to 4kHz. And again, there is a similar three-way Slope toggle, and Amplitude knob, and On button with LED. At the bottom is another pushbutton (with green LED) labelled Bandpass Both. This effectively disables the LPF Amplitude knob, and combines the two filters in series, with the signal passing through the HPF's Amplitude knob for gain adjustment. On the rear of the module, adjacent to the edge connector, is a tiny switch. This determines which filter defaults to the main output, with the other filter routed to the Omniport (when used with a Workhorse rack). By default, High is selected, and this allows either or both filters to operate with any 500 Series rack.

My favourite use of the Tossover was to use the Omniport to divide off high frequencies for spatial or distortion effects, while leaving the bass frequencies untouched, keeping the track 'grounded' and solid in the low end. The filters are dramatic, especially with the steepest slope, of course. This technique worked well on a double bass, making for a characterful sound with some nice crunch (on the top end), yet no loss of (unprocessed) bottom end.

Conversely, it was effective to distort the lower frequencies of a vocal, while leaving the sparkling clarity of the top end untouched for a really exciting and prominent sound, with no loss of diction and clarity. In both instances I had to knock back the level into the Tossover very slightly in order to avoid maxing out the headroom. And if splitting the signal back into a DAW there are potential delay compensation issues, so care is required. Without

an Omniport-equipped rack, you can still make use of the dual functionality by running two passes and recording either filter then recombining the signals. Using both filters together for bandpass filtering can focus dramatically on any part of the sound for separate processing. There are all sorts of possible creative uses, and the filters can make for savagely dramatic bandpass filtering when they approach the same frequency as each other, especially at the steepest settings.

**PROS** Uniquely useful tool for dividing up or isolating certain frequencies, especially useful for further processing of frequency elements; powerful filtering.

**CONS** Radial rack required for full functionality; filtering can seem rather drastic.

**Q4 EQ** — Of the three EQ-related units explored here, this is the most conventional and familiar looking, and it appears similar to many typical console EQ sections. But this is a Class A 'state variable' all discrete circuit, so there are no ICs, and Radial's Peter Janis (*Resolution V12.3*) is keen to boast that this results in 'less negative feedback for the cleanest, most natural sound'.

Knobs are rubberised like those on the Tossover and feel beautifully smooth in use. The fixed frequency High band comprises a simple 10kHz cut/boost knob, with +/-12dB of gently sloping shelf EQ. It does indeed sound very sweet and open, almost as if it is set higher than the quoted 10kHz. It adds a lovely sheen. At the opposite end is a similar broad sloping 100Hz Low band shelf, sumptuously warming the lower frequencies, (or cooling if you turn it left!)

In between are two semi-parametric bands. The Hi Mid features a continuous sweep from 1-8kHz, while Lo Mid sweeps from 300Hz to 2.4kHz. Both are set with continuous pots with +/-12dB cut or boost, and none of these has a centre detent. Both Mid bands also include a pushbutton to enable a rather narrower Q setting. This is narrow enough to go all Hendrix with and you can make superb wah-wah effects with the Low Mid frequency knob. The Hi Mid narrow setting seems a tad subtler — with overlapping frequencies it was interesting to compare, and the Low Mid definitely has a bit more honk and grunt available. Nevertheless, the Hi Mid can poke right in on the set frequency for a bit of surgery, in perhaps a slightly more refined manner. In standard wide-Q mode, more general sound shaping works beautifully on both mid bands, and no setting sounds bad. Sonic integrity is always retained, with a natural and open character that belies the tiny dimensions of the module.

At the bottom is an EQ In button accompanied by a green LED. I found that the Q4 oddly added gain even when set flat, and headroom was a little lower than expected. None of that was a major problem, and this sounds astonishingly wholesome and lovely for something in such a small package. ■

**PROS** Great general purpose EQ with a big, broad, sweet sound; narrow Q settings allow you to be surgical.

**CONS** Some headroom limitations and gain issues; no centre detents.

#### Contact

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