



If you want a high-quality analogue EQ, you'll probably own several preamps already — so why pay for unnecessary gain stages? Find out whether you should make an active decision to acquire this passive EQ...

Thermionic Culture Pullet

Mid-range Passive EQ

Eric James

The signature of passive EQ designs is a purity of tone that can rarely be matched by active units, and this is part of the reason why original Pultec EQs — and the higher end of the range of similar designs based on them — are held in such high regard. The Pultec is clearly the inspiration for Thermionic Culture's Pullet — hence the neat pun in the name, which still keeps this device in the Thermionic Culture family of fowl names for fine equipment — but it is not an outright clone.

Concept

The Pullet is a passive, stereo, mid-range, analogue EQ. Being passive means that it does not have any active components in the filtering stages; being mid-range, although it is a very generous range, means that the Pullet has no means of affecting or controlling low frequencies and only severely limited options for high-frequency content.

Because it uses a completely passive network of filters, the notion of 'boosting' any frequency is slightly different than with an active design. A passive EQ attenuates the gain of any signal passing through it by about 40dB, and the signal is then boosted by that amount post-filtering. In effect, then, a boost is not really adding gain so much as reducing its reduction. Because of this requirement for overall gain, most passive filter EQs are designed with an integrated active stage that will provide it. What makes the Pullet different in this regard is that it is *entirely* passive — so make-up gain must be from another device.

The original reasoning from Thermionic Culture seems to have been that the Pullet was to be paired with the Earlybird preamp, which includes simple, yet very effective on-board EQ to offer control over the low and high frequencies. But Thermionic suggest other sensible reasons for the passive design, too: most engineers using the Pullet are likely to have a spare preamp or two in their studio, so they can not only save money (by not having to purchase

something they already own), but have the further possibility of using their preamps creatively during EQ, by allowing the character of the preamp to influence the overall sound of the processing in the same way that they can at the recording stage.

This strikes me as a very good idea, especially the bit about not spending unnecessary money on what you already have. At first, though, I noticed some confusion in the market-place: "Nine hundred quid for an EQ that can't do highs or lows and doesn't even have a gain stage?" As word about the quality of the Pullet processing has filtered through (if you'll pardon the pun), this view has changed to, and has generally remained: "Wow! Only 900 quid for a really top-notch piece of kit."

Design & Construction

The Pullet is a pretty simple and unassuming box: a plain black, single rack-space unit, with no power supply, no lights, only input and output (XLR) connections on the back, and small, neat



and clearly labelled knobs and switches for each channel on the front panel. These knobs control separate frequency and gain choices (up to 21 dB in 11 marked positions) for 'mid-lift' (800Hz to 8.5kHz) and 'mid-cut' (230Hz to 8kHz) for each channel, and the switches — just a single one for each channel — select one of three otherwise unspecified 'Q' settings: Hi, Lo and Medium. Each channel also has a switch for engaging a high-cut/lift control, which is a pretty gentle shelf with unspecified gain that can boost at 10, 12 or 15kHz and cut at 6, 11 and 15k.

In Use

As well as taking the Earlybird route, it is, of course, possible to augment the Pullet's mid-range capabilities with plug-ins, or a single outboard EQ, but I decided to treat myself and patch it into the system at my own mastering studio, between a Weiss digital EQ doing bass-control duties and

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a Cranesong Ibis analogue EQ looking after the high end of things. I used a Grace Design 801 preamp for post-Pullet make-up gain... and the whole sequence worked a treat.

For example, at the time the Pullet arrived, one of the tracks I was mastering was by a singer-songwriter who had recorded it himself at home in Cubase. It was a gentle, mainly acoustic song with an interestingly subtle and fairly complex arrangement of guitar, mandolin, bass, percussion, strings, piano and synths. It was all very well recorded but, as with many such productions, the main EQ problems were rogue resonances, a clutter of frequencies, and an uncertain high end (topics I plan to discuss in more detail in a future *SOS* article). The resonances were coming from the bass and one of the tuned percussion instruments, and could be heard skewing the mix with irritating peaks at 100 and 200Hz; the highs were too much between 8kHz and 12kHz, but lacking in the 3-7kHz region (I suspected an over-enthusiastic use of a textbook de-esser on the whole mix). The clutter was leaching clarity from the rest of the arrangement as soon as things got anywhere near busy.

The Weiss dynamic EQ easily took care of the resonances, and a single broad, shallow dip on the Ibis dealt nicely with the 8-12kHz

'tizz'. I did try reducing this with the Pullet's high shelving cuts, just to see how they operated, but they were either too high (the 11k didn't do enough), or too low (the 6k started too early, and still didn't do enough). No surprises there, as this application isn't the Pullet's *raison d'être*.

With that issue taken care of, I needed to tackle the mid-range. What I wanted to do was dip out some of the residual low-mid build-up (around 400Hz), add some 'point' at certain other frequencies (maybe 1.5kHz) and also reverse the dullness from 3-7kHz, all with the aim of clarifying the textures of the arrangement.

This is the one place where the Pullet

is not flexible enough: this device, like its Pultec inspiration, is single-band (what they used to call 'programme') EQ, so I could dip the lower mids, but when it came to the additive EQ, I could only deal with one or the other of the two tasks, and so would have to use another band of the (four-band) Ibis to do whatever it was I chose for the Pullet not to do. The choice between two smooth EQs was not easy!

Boosting in the range where the ear is most sensitive can be a quick recipe for sonic disaster, as it's so easy to add an unpleasant edge, and until now the Ibis has always been my choice for such processing. I decided, though, that the mid-Q nature of the mild dip I had already dialled into the Pullet sat better with the kind of Q I needed for the boost at its 5kHz setting, and that the narrower 'point' I wanted to add lower down was better served by the more flexible bandwidth choices of the Ibis. This was not by any means a compromise: the Pullet's contribution to the sound was simply wonderful, and I found myself attempting a level of boost in that range that I would not have dared to try with any other EQ I can think of.

As I worked on other projects, I came to appreciate more and more the ability of the Pullet to provide a quality of mid boost that is really quite unique. On work

SOUND ON SOUND

Thermionic Culture Pullet £966

pros

- Superlative sound.
- High-quality construction.
- A relative bargain.

cons

- Not a one-box solution for all your EQ needs.
- You'll need a decent preamp if you don't already own one.

summary

This passive mid-range equaliser, based on a classic Pultec design, cuts costs by dispensing with the preamplification stage, and is capable of making a wonderful difference to the professional sound of a mix.

THERMIONIC CULTURE PULLET

▶ featuring vocals, acoustic guitars, solo and massed strings, piano, sax (in fact, on any predominantly natural instrumental ensemble), the Pullet was superb. It also worked well to bring out electric guitars on blues tracks and — most importantly for me — ‘un-spitting’ saxophones for jazz. A producer (who had popped in from Moscow on his way back to Alaska — and complained that England was cold!) was sitting in on a session while I was working on one of his projects, a jazz CD by the Dan Mac Quintet. During the mix, the engineer had thought the alto sax too sibilant, so he had cut it, narrowly and quite severely, at around 3.5kHz. This had worked to some degree, but the resulting softness meant that the overall sound was too much like easy listening, lacking in excitement. I think

Alternatives

Most other passive EQs, such as the Manley Massive Passive (pictured), are full-range. Even if just

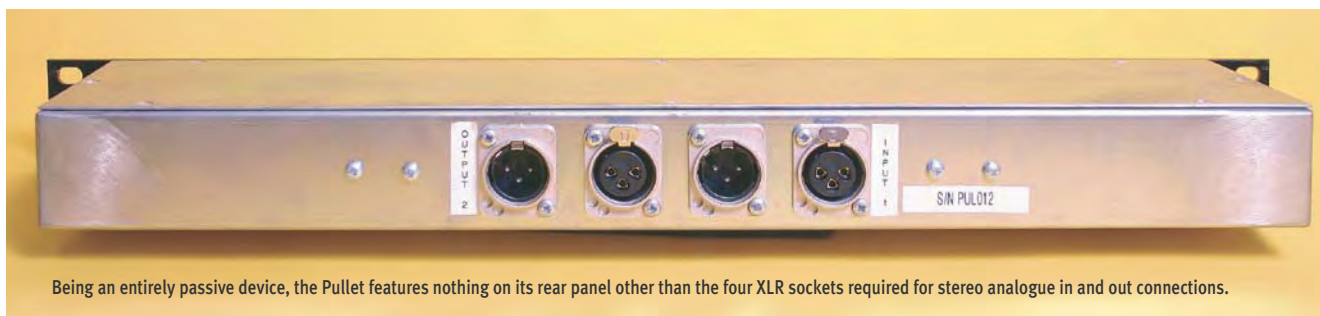


mid-range, like the Manley Enhanced Pultec EQ and models from Tube Tech, they usually come with built-in preamps, which makes them considerably more expensive than the Pullet — and when you check the prices, remember that these are only mono units!

of a Broadhurst Gardens unit. My clear preference was for the clean make-up of the Grace, letting the Pullet provide the character — but there’s certainly potential to change the sound of the Pullet with different preamp choices.

supremely well. On the mandolin, it filled out the sound of a relatively inexpensive instrument, giving it the body it needed to avoid sounding thin and full of plectrum noise; and on the jazz bass, though it was unable to touch the fundamentals of the notes, it gave a lovely presence to the overtones and the finger/fret noise that I think of as an integral part of the sound of acoustic bass.

I also tried it on some non-professional projects — by which I mean some of my own electric guitar pieces from a few years ago. It did wonders for the electric guitar tones, its range meaning that I was able to add both grit to distorted rock guitar and clean presence to a Telecaster twang but, alas, it doesn’t work miracles on the performance, and I was reminded



Being an entirely passive device, the Pullet features nothing on its rear panel other than the four XLR sockets required for stereo analogue in and out connections.

this is the first time in my career that I have ever dared to add over 2dB to the 4kHz region during mastering, but just that one move with the Pullet (nearer 3dB, in fact), did everything that was required: nothing sharp, just everything clear.

It is in the nature of the beast that it did not do so well for adding any stridency that might sometimes be required. Working on another session, a heavy pop song by a Russian idol, I was told by the producer that his countrymen’s taste was for ‘lots of 6k’ but no matter how much I added with the Pullet, it was not enough — my point being that 6kHz on some other EQs adds just a touch of grit, which the Pullet cannot do.

Of course, I cannot really criticise the Pullet for lacking the edginess it was designed to preclude — it would be like asking why a Steinway doesn’t have a Fender Rhodes setting! Furthermore, remember that you get to choose which preamp you use with the Pullet, and it’s also possible that a sound more coloured in that direction could be provided by using a less clean preamp. I didn’t do much comparison between preamps, just swapping out the Grace for a day in favour

To my ears, the Pullet also worked less well than the Ibis at the lower end of its range (which is setting the bar very high), but a mild or moderate boost with medium Q at 2.5kHz became almost a ‘go-to’ setting for me, in some cases just to see what it did. It wasn’t usable in some cases, but in many it provided unexpectedly rewarding results. That is really quite a telling point: I’ve been using EQs for at least a couple of decades, and mastering for about half of that time, so by this stage I thought that most of my EQ choices were almost instinctive. To find, at this stage in my career, an EQ that makes me rethink some of those instinctive reactions, at least with regard to the mid-range, was a very pleasant surprise indeed.

Tracking & Mixing

During the time I had the Pullet, I used it mainly for mastering duties and didn’t have many chances to use it as a tracking or mixing EQ, but on the two occasions that I did (tracking my business partner laying down some mandolin for a forthcoming project; and mixing a jazz bass), it worked

just why it was I’d decided to work on the other side of the desk!

Conclusions

I’m fortunate not to suffer inordinately from gear lust, having been in a stable and rewarding relationship with my tools of the trade for a number of years now, but I have to admit that there are times when I do miss the Pullet and, in EQ as in life, find myself having to accept the perfectly satisfactory rather than the more exciting and possibly simply perfect. The Pullet is never going to be the *only* EQ anyone will ever need — but for mixing or for mastering it could quite easily be the first analogue EQ to buy for someone who already owns a mic preamp and wants to supplement their plug-in collection with something that provides heaps of genuine analogue warmth and smoothness. **EOS**

Information

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