

Chameleon Labs 7603 and 7603 XMod

GEORGE SHILLING colours his sound with a somewhat familiar beast.

The Chameleon Labs 7602 was introduced in 2005, a popular American take on the famous and revered Neve 1073. In 2014 the company was acquired by Marcelo Vercelli, a design engineer whose CV includes products for Event, Mackie, RCF and KV2. Vercelli launched a two-year R&D project, the result of which is the completely re-designed and updated 7603. The XMod version is identical apart from the swapping of the input and output transformers for British made Carnhill transformers.

Chameleon are at pains to describe an incredibly conscientious design process. During the two year development phase, research was carried out on metallurgy and the technology of the input and output transformer stages for the standard model. Despite the arguably easier option of just sticking Carnhills or other transformers in, much research was completed, studying how to anneal, select and treat the metals in the transformers. The designers looked at how output transformer laminations and gaps create harmonics. Also how the amount of DC voltage flowing through affects the 'sweetness' of the harmonics, and this was thoroughly researched, with techniques developed to provide consistency of tone. Mu-metal cases enclose the Line and Mic input transformers for extra isolation from interference. Chameleon also developed many passive components — it's quite unusual for a company to get involved with this level of detail — but they created bespoke switches, transformers, pots, heatsinks, inductors and even VU meters with custom coils so that they could design the ballistics. The noise floor was paid particular attention with, for example, the selection of Line/Mic and DI inputs being relay based, so that fragile signals are not sent on unnecessary journeys around the circuit board potentially picking up interference. The Gain switch and gain stage took a year of R&D. Unlike the original 1073 which has two separate ranges on the gain switch, the 7603 has up to 70dB of gain in a single stage.

A custom switch-mode internal PSU covers voltages from 100-250V, fed by a rear panel IEC socket with accompanying fuseholder. There are separate XLRs for Mic and Line inputs, and an XLRM output. Here on the back of the sturdy black



1U case you'll also notice that this is "Designed by nice folks in Woodinville, Washington USA" but built in China. The metalwork is clearly built to a price, but everything seems solid and reliable, the switches are positive, and the pots feel very smooth.

The three band inductor-based EQ boasts an extraordinary 0.01% distortion with inductors in circuit. Rather than the Neve's dual-concentric controls there are easier-to-operate dedicated single knobs for each function. The sparkly custom knobs are loosely based on the Neve gain knob shape and are pleasant to use. Gain knobs are blue, frequency selectors orange, and EQ gains are silver, so they're easy to navigate. Unlike a Neve, the EQ gain knobs have a useful centre detent. Some space is saved by utilising tiny toggle switches rather than big pushbuttons. There is a DI input jack socket which unusually has a toggle switch to select, rather than being activated by cable plugging, and the Mic/Line toggle must also be in Line position. There is a toggle for Mic impedance — 300 or 1200 ohms. Gain is a blue rotary knob with clicks for 5dB steps from +20 to +70dB for mic gain, or -30 to +20dB for line. Nearby is a red overload LED. Three further toggles then select EQ On/Off, Phase Reversal, and 48V phantom power. I'd have liked some sort of indicator or a different colour for this.

The EQ starts with the High Pass Filter, switchable on a rotary knob to Off (bypass), 40, 80, 160 and 320Hz — very slightly different frequencies from a 1073 but sounding remarkably similar. Low

frequency shelf selector is next with (authentic) Off, 35, 60, 110 and 220Hz positions. Its Gain knob is next, then the Mid peaking EQ selector offers (similarly to the 1073) Off, 350, 700, 1.6kHz, 3.2kHz, 4.8kHz and 7.2kHz. Following Gain for that is the High shelving band selector with Off, 3.4kHz, 4.9kHz, 7 kHz, 12kHz and 16kHz — rather more flexible than the 1073's fixed 12kHz shelf. Apart from the high pass filter, the curves seem rather different too; the 7603 seems rather milder than the

1073, and the closest sonic match to the 1073's relatively harsh-sounding fixed high band actually seems to be the 4.9kHz setting. All EQ gain knobs offer +/-15dB continuous range, with the aforementioned centre detent at zero. The maximum settings seem less powerful than the 1073 when it is maxed-out; the 7603 seems cleaner, but there is plenty of poke in most situations. The last knob is a blue Output Gain — effectively a fader, useful for trimming between the 5dB input steps, with a range of -60 to +20dB and a centre detent at zero. However, the manual suggests keeping this wide open. Juggling this and the input gain drives the transformers differently. Another overload LED follows this. The illuminated custom VU is next — it's pretty small. Three more toggle

switches are the last things on here: Power On/Off (the VU illumination is the only indication of status), Meter Input/Output, and Meter Range — 0dB or -20dB which makes it 20dB more sensitive — I was expecting the opposite, as digital levels often tend to be higher.

In terms of comparing the two different models, I found the XMod version to be a tiny bit more coloured and crunchy, and this lent a certain magic quality to a male singer I was recording with a Sontronics Aria. However, with a soulful sounding female singer whose voice has depth and richness aplenty, I preferred the slightly clearer purity of the standard 7603. Indeed both 7603s do seem slightly less coloured than the recent Neve 1073 SPX reissue with its rich sounding Marinair transformers. But the Chameleons are both impeccable performers which sound terrific, and are competitively priced. These are not exact Neve clones; they sound like cousins rather than twin brothers, but I liked them a lot. ■

PROS

Big sound, smooth EQ, excellent noise performance, XMod version has some extra sonic colouration.

CONS

48V phantom switch has no LED indicator, switches have tiny legending, no insert loop.

Contact

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