

Analogue Tube AT-1

Let's face it, we'd all want a Fairchild but there aren't enough to go around and this has spawned remakes and remodels.

GEORGE SHILLING discovers possibly the last word in a modern equivalent.

It is some six years since I looked at the Analogue Tube AT-101 (*Resolution* V7.8), a faithful recreation of the Fairchild 670 stereo limiter that is often considered the holy grail of studio compressors. Developed over five years, one of the keys to its authenticity was the development of the 6386LPG dual triode tube (to replicate the original's GE6836 tubes), a missing link that other Fairchild replicas had, up to that point, lacked. The original precursor to the 670 stereo limiter was the mono Fairchild 660, which had a few significant differences in the circuitry (particularly the transformers) from the stereo model, but an equally legendary status. The reverence in which the 660 is held, and the extraordinary high prices paid for examples, has much to do with the Beatles' use on their 1960s recordings — particularly for vocals — from 1964 onwards. Remarkably, Abbey Road never owned a stereo 670 model, but instead slaved pairs of 660s for stereo use later in the decade. Analogue Tube's Simon Saywood has now authentically recreated this model (with some



enhancements) in the shape of the AT-1. Simon personally hand-wires all the Analogue Tube units and he kindly dropped round this early example for me to look at over an all-too-brief few days.

The AT-1 (UKE6800 + VAT) is no less daunting than the AT-101: it's a 6U rackmounter that weighs an enormous 20kg despite an aluminium case.

Rack-mounting requires 3U space above and below, and optionally a 1U fan is available to mount above (*Somewhere to dry your socks*, Ed). A Peli 0370 flightcase can be provided for transportation.

The case is fairly shallow and contains the complex authentic turret board wiring; it also includes a custom remade 50W control voltage transformer for the gain reduction stage heaters. But there are also many enormous and expensive looking components

protruding from the rear, including 12 valves, (new JJs, and NOS Raytheon and Mullard were visible), some with metal covers, others without, and some huge transformers (including custom Sowters for audio). Hidden among all this are a bunch of XLR connections arranged in a vertical row behind the right edge, and a mains power input IEC socket on the other side, along with a fuse holder and rocker switch that lights up whichever position it is in as long as mains is supplied. The case is thoroughly vented, and there are small gaps around the two 3U front panel sections for ventilation. Both panels are matt black — not that dissimilar

from an original Fairchild — although custom colours can be specified.

The upper panel contains most of the controls which are similar to a 660's. A large toggle switch for power is top left, with a green indicator light and another panel-mounted (3A) fuse-holder. A lovely custom meter is next: a wonderfully large vintage-

REVIEW

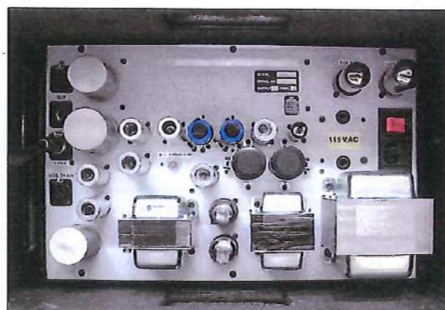
style VU, with the familiar calibration control with Bal-Zero-Bal positions, and a pair of accompanying trim screws set into the panel labelled Zero and Bal. This is normally left in the Zero position to indicate gain reduction, and I left the calibrations well alone. The knobs used are suitably large but perhaps a little disappointingly plasticky, slightly lacking the authentic vintage Bakelite feel (*Give them 50 years*, Ed), but this has no impact on use and they work well, grip pleasantly, and clearly the components behind the panel are where the emphasis is put.

The Input Gain control is different from the AT-101, with an original tapered step attenuator remade as it was back in the 1950s. This sweeps from infinity to 0dB via -44 and -32 then from there in 2dB steps upwards, clicking fairly stiffly across the settings.

The stepped (AC) Threshold knob is also new and is simply marked 0 to 10 with half-steps in-between, these are gentle clicks and as you raise the setting the threshold is lowered. The 21 positions are easily repeatable for recalling settings and no doubt helpful when linking units. Among the valves on the rear of the unit is a trim screw for DC Threshold. This varies the knee width, so at wide knee settings the ratio appears to be lower (although still ultimately reaches 20:1). There is a calibrated default position but this can be adjusted — I easily tweaked it with my thumbnail.

The Time Constant switches from 1 to 6 and these settings are identical to the original Fairchild unit, broadly described as fast attack and release on the lower settings, with slower settings further up, and auto-release in positions 5 and 6. A further rotary switch selects Stereo Link — a four-pin female XLR socket on the rear allows you to connect another AT-1 for stereo linked gain reduction.

On the lower panel is a pair of industrial-looking



pushbuttons that clunk and latch, lighting up green to indicate true Bypass and External Key Input — this appears as a further XLR connector for use perhaps for de-essing or other creative endeavours.

On my cheap-and-cheerful (but played by an expert) Nashville Hi-Strung acoustic guitar recorded with a U87, the old strings sang out beautifully and added a beautiful sheen to the song, settling nicely into the mix with a dose of compression on the 5 setting smoothing any spiky harshness perfectly.

On vocals the AT-1 imparts a gorgeous 'dryness' and warmth when pushed. I often tend to use the automatically varying release Position 5 on a Fairchild, or more often my AnaMod AM670, and this setting was smooth and engulfing. But I'm also a fan of fast release settings and nudged it back to position 2 when setting up for male vocals on a second song, and during the run-through even felt the urge to try 1, which can sometimes prove a bit too crunchy. But not on the AT-1 — this turned out magically to control the most dynamic of performances. It catches and enhances the glottal-stops and consonants in a hugely appealing manner. I still rode the fader sending

to the limiter, for fear of over-doing things, but I need not have worried. Even when the needle was way left, any slight crunch was enjoyable, with a rich, smooth charm.

I recorded folk fiddle with a Neumann M147 and although the meter on the AT-1 indicated >7dB of gain reduction at times (on the slower setting of 5), all the performance dynamics shone through and the waveform still showed quite a variance, which made me wonder if I was being too reserved with the Gain and Threshold knobs. But the tone was gorgeous and natural-sounding.

I recorded a pair of congas with the same mic, and (no doubt helped by the percussionist's enormous hands), these sounded grinningly fabulous, with the compression enhancing the slap and room ambience, yet sounding big, warm, present, rounded and solidly grounded within the track.

Whatever you send through the AT-1, it comes out sounding full-bodied, rich and warm, yet loses none of the detail and character. Any source can benefit from passing through this circuitry. Saywood has obsessively recreated the magic of the original Fairchild and improved on it — particularly in areas of reliability. The Fairchild 660's reputation is fully justified, but the wonderful AT-1 takes the baton, runs for the prize and wins. ■

PROS The most accurate replica Fairchild 660; stepped controls; sidechain input; stereo link.

CONS Size; weight; heat (110W).

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