

Phoenix Audio Ascent Two EQ

BOB THOMAS

Phoenix Audio's roots lead back to their foundation in England in 1996, as a service company specialising in pre-1980 Neve consoles. With ex-Neve designers David Rees and Shaun Leveque at the helm, it was almost inevitable that the company would expand beyond building the replacements for vintage Neve output stages that made their name, to creating their own range of Class-A all-discrete preamplifiers. The first of these, in 1999, was the DRS-2 dual microphone preamplifier, and with the success of this and other new products came challenges and opportunities. Consequently, under new ownership in 2009, Phoenix Audio moved to a new manufacturing and distribution base in California's Costa Mesa, where they remain, while still maintaining their English roots and design heritage. With Rees and Leveque leading the company's circuit design from 1996 to the present day, Phoenix Audio have developed an impressive range of products, the latest of which is the recently-released Ascent Two EQ, a rackmount, dual-mono combination of Class-A microphone preamplifiers, instrument DI and gyrator EQ.

It's Heavy, Man!

The first thing you'll notice about the Ascent Two EQ is its overall weight —

Dual-channel Microphone Preamplifier, DI & EQ

Though a great recording front-end, this versatile and characterful processor could just as easily find a home on your stereo mix bus...

the solid-steel chassis and the linear power supply's toroidal transformer mean the whole ensemble adds up to a hefty package. Internally, the two sets of channel electronics sit on separate but identical PCBs, each dominated by three large, resin-encased discrete op-amps and an output balancing transformer. Internal construction overall is of an extremely high quality, as are the switches and other electronic components.

The Ascent Two EQ is a two-channel variant of Phoenix Audio's Ascent One EQ, and its red-anodised, Neve-ish knobbed controls are identical to those of its single-channel stablemate, as are the rear-panel I/O connectors. Each channel carries a large, switched, rotary mic/line gain control covering a range of -30dB to -70dB. That is followed immediately by a smaller, detented, rotary output level control. Above this sits the minimalist two-LED channel output level meter — one green LED (marked

0) is set to illuminate solidly at 0dB (PPM 4), and the other, which is yellow and marked 8, turns on at the US broadcast reference level of +8dB (PPM 6), a level that's well below the Ascent Two EQ's +26dBu output capability.

A switch-controlled TRS jack DI input is next in line, followed by the four-band EQ's detented rotary controls and frequency selection switches. Sitting below these is a bank of seven latching button switches, the first of which, the EQL (equaliser) in/out, sits slightly separated from the rest. The remainder activate: the DI (bypassing the mic/line preamp); the 6dB/octave 80Hz high-pass filter; Phase (polarity inversion); 48V phantom power; the mic/line input's -15dB pad; and, finally, a chassis ground lift. The first six buttons each have an associated indicator LED that illuminates when the switch's function is active, though there's a curious anomaly, which is a hangover from previous



Phoenix products that have employed this circuitry — the pad LED is illuminated in mic/line mode irrespective of whether the pad is engaged or not, and only goes out when the DI mode is selected (the pad only acts on the mic/line input).

Secret Circuits

With the Ascent range, Phoenix Audio have aimed to produce preamplifiers that can deliver both extreme clarity and the warm saturation associated with vintage UK consoles. Central to this is Phoenix Audio's electronically balanced, transformerless microphone input stage, which has an essentially flat frequency response (-0.4dB at 40Hz, -0.3dB at 25kHz). The microphone input's gain range of 30 to 70 dB (in 5dB steps) can be extended by an additional 10dB available from the output level control. Its high (10kΩ) input impedance, together with the 80dB of total available gain and a -90dB noise floor, is designed to work well with both ribbon and dynamic microphones, as well as capacitor models.

The DI's input impedance is a healthy 10MΩ. Not only does this avoid loading down electric guitar and bass pickups, but it also really helps out piezo transducers, since it presents a load large enough to flatten their inherent mid-range peak (the root cause of the dreaded 'piezo quack'), thereby maximising the potentials of both types of pickup.

As with other Phoenix Audio products, the Ascent Two EQ's output stages are driven by Phoenix Audio's proprietary DSOP-2 Class-A discrete output amplifier, coupled to the company's custom-wound DB694 output transformer — a combination that defines Phoenix Audio's 'signature sound'. The way in which this design acquires its character is

unusual for a transformer-balanced output stage, as it comes from distortion derived from the way the output transformer loads and biases the output circuitry, rather than from the transformer itself.

Ascent To Tone Heaven

The Ascent Two EQ's equaliser is a gyrator-based four-band EQ, with each band being able to deliver up to ±16dB of gain at three separate frequencies — Low (Shelf): 40, 80, and 130 Hz; Low-Mid (Peak): 200, 400 and 800 Hz; High-Mid (Peak): 1.6, 3.0 and 6.0 kHz; High (Shelf): 10 and 15 kHz, plus 'Sheen' (25kHz). In addition, its 80Hz 6dB/octave high-pass (or low-cut) filter helps to clean up any low-end rumbles and handling noise. Although unscaled, these four knobs' 21 detents (approximately 1.5dB per detent) make it very easy to recall their positions.

If you haven't encountered a gyrator EQ before and you're wondering what all the fuss is about, the explanation is (relatively) simple. Early equalisers were based on LRC (inductor, resistor and capacitor) filter circuits. An ideal gyrator is a passive device that can simulate an inductor, but in audio circuits, the behaviour of a gyrator can be reproduced by a small op-amp circuit, and this circuit can be used to replace the inductor in an LRC filter, removing that inductor's biggest drawbacks — its size and weight, its susceptibility to stray magnetic fields, and the relatively high cost.

The main characteristic of an LRC filter is that the bandwidth around its centre frequency narrows as the amount of cut or boost increases, so that with bigger boosts or cuts they become more focused on the centre frequency, with less of an effect on the frequencies on either side. The reverse holds true too —

decreasing the amount of cut or boost widens the filter's bandwidth, reduces the focus on the centre frequency and by comparison has a greater effect on adjacent frequencies. This characteristic, often referred to as 'proportional Q', applies to LRC filters whether they contain real inductors or gyrators, and it was an important aspect of the EQ character of many classic mixing consoles.

In Use

Since its minimalist output metering doesn't tell you all that much, working with the Ascent Two EQ mandates that your ears become your *de facto* meters. And because the Ascent Two EQ can deliver an output level of +26dBu, Phoenix Audio feel that, in normal use, it's extremely unlikely that you'll actually »

Phoenix Audio Ascent Two EQ £2310

PROS

- Great-sounding microphone/DI input stage.
- Gyrator-based EQ sounds musical and is very effective.
- Class-A output stage can deliver pristine clarity, saturation-driven warmth and even crunchy distortion.
- Versatile, with potential applications in both recording and mixing.

CONS

- None.

SUMMARY

A combination of a high-performance microphone preamplifier, a gyrator-based EQ and Class-A electronics, the Ascent Two EQ is an impressive and flexible performer that adds up to more than the sum of its parts, and could be used in a range of different recording and mixing scenarios.





The balanced analogue outputs are presented on both XLR and TRS jack sockets.

» be able to clip the unit's outputs; if you're hearing distortion it's more than likely to be occurring earlier on in the signal path.

The Ascent Two EQ's microphone preamp is, to my ears, a thing of sonic beauty. Used, shall we say, sensibly, it handled my pair of AKG C414-ULS capacitor microphones and my vintage Bang & Olufsen BM-5 stereo ribbon with equal aplomb, delivering the combination of transient detail, clarity and the sense of body and weight that I look for from the AKG and, with the BM-5, opening up its characteristic ribbon low-mid warmth and rolled-off top-end in a very attractive way that I'm not used to hearing. One of

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my favourite dynamic mics is a vintage hypercardioid Electro-Voice RE-16 and, again, the Ascent Two EQ gave me the clarity and definition in performance that this particular model is capable of. The DI input was similarly impressive, and plugging a single transducer piezo pickup straight in sounded superb, as did piezo-equipped acoustics with on-board preamplifiers. Electric guitars, both humbucker and single-coil equipped models, also worked well patched into this input, producing clean, clear and wide-ranging responses.

However, lurking in the shadow of this purist performance is a gain-driven character that is conjured into being by balancing the input gain, the -15dB pad and the output level to produce a wide range of saturation effects, from pristine clarity through to where the Ascent

Two EQ's DSOP-2 Class-A output stage comes into its own, with a smooth, rich, warm-sounding saturation that can be pushed harder to add an attractive crunch to a DI'd electric guitar. Personally, I can't think of many vocal, instrumental or percussive sources where I'd never think of using this aspect of the Ascent Two EQ's operation to some extent or other!

Then there's the four-band equaliser section, where the overlap and interaction between the three pairs of EQ — bass shelving into low-mid peak, low-mid peak into high-mid peak and high-mid peak into treble shelving — plus that of the

bass shelving filter and the 80Hz HPF, give you considerable sound-shaping options, which can be quite gentle at lower levels of cut and boost in the mid-range bands, or more aggressive as those levels rise. Once you get into higher levels of cut and boost in the mid-range, the increasing focus on the selected centre frequencies opens up a more surgical approach, which can be useful in dealing with problems. The centre frequencies are well-chosen to my ears and the equaliser maintains its musicality and composure even at the more extreme ends of its performance. The 25kHz Sheen band is a useful addition, with the bottom end of its shelf reaching down into the treble frequencies, and delivering a gently-rising response that can bring an attractive sense of air and sparkle into the high end of some sources, or, indeed, of a stereo mix.

saturation-driven warmth into crunchy guitar-tone territory — is something that I've not encountered before. It's well suited to tracking duties, of course, but I could also definitely see a role for this device as the gain stage of a passive summing mixer or a stereo-bus insert processor, in which roles its flexibility could really open up the sonic options in a mix.

I'm finding it difficult to put my finger on precisely *why* I find the Ascent Two EQ so attractive, though I most certainly do. It could be because there's a hint of the early Neve console on which I cut my engineering teeth about it, in the way that it sounds and responds to being pushed hard; it could be that I like the way that its EQ sounds; it could be the way that driving the output stage builds up an increasing sense of character in the source; it could be because it seems able to wring every last ounce of performance from my various microphones; or it could be all of these and a few more besides.

Price-wise, the Ascent Two EQ might be a serious investment for a home studio owner, but it still represents very good value given the features, the quality of sound and the versatility that's on offer here. But if you like the idea of this unit but don't need the onboard EQ and want to spend a little less, you could also consider the non-EQ version, called simply the Ascent Two, or the single-channel variant, the Ascent One. No matter which way you decide to go, if you're after a mic pre/EQ that can deliver vintage-style character, but that can do pristine when you need it to, the Ascent Two EQ should be high up on your audition list. I'll be very sad to see the review unit leave my studio. ■■■

Alternatives

There's nothing quite like the **Phoenix Audio Ascent Two EQ**, particularly given the mechanism by which colour is added to taste at the output stage, although there are a number of other preamp-plus-EQ units which draw on the classic Neve designs, including those by **Rupert Neve Designs** and **AMS Neve**.

Overall

I have to say that I'm rather taken with Phoenix Audio's Ascent Two EQ. Its combination of a great-sounding mic/line preamp and DI, musical-sounding and very effective gyrator-based EQ, and Class-A output stage — that ranges in character from pristine clarity through

E Ascent Two (without the EQ section) £1848. Ascent Two EQ (as reviewed) £2310. Prices include VAT.

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