SOUND ON SOUND
The World's Best Music Recording Magazine

Phoenix Audio DRS2 : **February 2003**

Phoenix Audio DRS2

Microphone Preamp

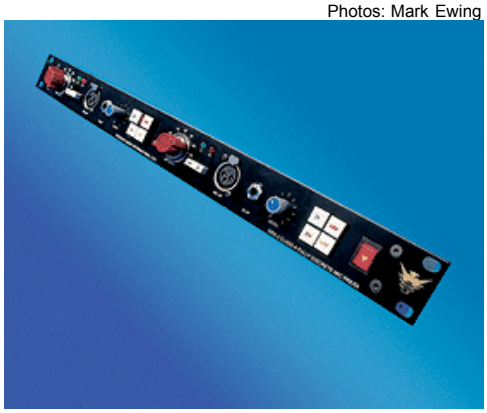
Reviews : Preamp

Published in SOS February 2003

Print article : Close window

A British company specialising in the maintenance and refurbishment of vintage Neve equipment have produced a new preamp design with a classic sound.

Photos: Mark Ewing



Hugh Robjohns

Phoenix Audio International was originally set up to service and maintain classic Neve studio equipment. Its owner, Shaun Leveque, has not only been supplying the Neve fraternity, but has also been developing his own equipment, using sophisticated Class-A circuitry and modern components, updating the sound of the 1960s designs to achieve modern performance levels. It took two years to refine the unique Class-A topology used in the Phoenix discrete output stage, called the TF1 module. A discrete stereo DI interface was next off the drawing board, swiftly followed by a transformerless discrete Class-A mic input stage.

Combination Design

The DRS2 is a no-frills two-channel mic preamplifier with switchable DI inputs. The electronics use both the transformerless Class-A input stage and the TF1 output stage. The 1U rackmounting steel case is entirely black, with retro knobs and buttons on the front panel, styled very much on the classic Neve consoles of thirty or forty years ago. Both channels are equipped identically, starting with a large maroon rotary switch to control the gain in 5dB steps from 30 to 70dB. Two rectangular white buttons select a 20dB input pad and an earth lift facility — both applying only to the mic input. A pair of LEDs illuminate at 0dBu (green) and +8dBu (red), but appear to be measuring the unit's output level, rather than the level after the input stage, as the output level knob affects the indication. The red LED also remains lit for an extended period once triggered, to ensure that high peaks don't go unnoticed. However, overload really is an unlikely prospect, given the input stage's 24dB of headroom.

Phoenix Audio DRS2 £1234

pros

- Class-A circuitry lends an attractive sonic character.
- Around 80dB of gain available.
- Excellent build quality.

cons

- Owner's manual leaves something to be desired.

summary

A dual-channel mic preamp employing discrete Class-A circuitry and output transformers derived from the classic console designs of the 1960s. Retro styling, dedicated DI inputs, and an unusually large amount of gain make this a versatile and competent unit.

SOUND ON SOUND

Both mic and DI input sockets are presented on the front panel, the former on an XLR and the latter on a tip-sleeve (unbalanced) quarter-inch socket. A mic input XLR is also duplicated on the back, wired in parallel with the front socket. The DI input bypasses the main mic gain stage, and boosts the input signal with a fixed 20dB of gain. However, the adjacent output level knob can be used to fine-tune the signal level, providing a continuously variable control for the selected mic or DI input, with an additional 10dB of gain available when fully open. Unfortunately, this control has no gain markings, but the operating instructions suggest that the unity gain point is with the knob set to around the two o'clock position. A definitive panel marking here would have been useful. Nevertheless, the additional gain is useful for both mic and DI sources, and being able to introduce a total of 80dB of mic gain will be most welcome to many users who prefer ribbon mics or distant mic placements.

The block of four illuminated buttons select the DI input instead of the mic input; apply 48V phantom power; introduce a polarity reversal; and engage a high-pass filter. No figures are provided for the filter turnover frequency or slope, but I would estimate a 6dB/octave slope turning over at about 125Hz.

The rear panel carries the parallel mic input XLR socket as already mentioned, and two balanced output sockets for each channel, both at a nominal 0dBu, one on an XLR and a second on a TRS quarter-inch socket. The maximum output level from the DRS2 is +26dBu, so driving a digital recorder directly should not be a problem. Equally, the output level can be turned down to avoid overloading the input of a semi-pro recorder expecting a -10dBV nominal level. The mains power is supplied through a standard IEC socket, with separate fuse holder and voltage selector switch.

Specs & Build Quality

Whereas the preamp itself creates a good initial impression, the same cannot be said of the owner's manual which comprises three sheets of stiff paper stapled together, plus a couple of frequency response print-outs from a Lindos audio measurement set. The manual describes very little of the functionality of the unit, bar giving an idea of how to optimise the gain. While I accept that there is little to confuse even a novice operator here, a little more information would be useful — such as the characteristics of the high-pass filter, the implications of the parallel mic input sockets, and so forth. Included in this documentation is a detailed set of specifications

which make impressive reading. The frequency response is claimed to lie within ±0.5dB between 20Hz and 20kHz, which the Lindos charts confirmed (with a +0/-1dB tolerance). The frequency extremes appear to tail off gradually, being only 0.3dB down at 25kHz, for example. The noise floor has similarly impressive specifications, being quoted as below -90dB across the audio bandwidth.

The DRS2's standard of internal construction and wiring is extremely high.

The internal construction of the DRS2 is exemplary, with very neat wiring looms mimicking the traditional wiring practices of yesteryear — albeit using cable ties instead of waxed string! A single circuit board occupies a modest area in the centre of the case, and carries most of the components for both channels in two parallel arrays. The bulk of the input stage and output stage components are all encapsulated in a pair of plastic boxes, with a few additional components and transistors mounted in between to accommodate the DI input. Each output stage feeds a line output transformer mounted at the opposite end of the circuit board from a small toroidal mains transformer.

All the controls are mounted directly on the front panel, many also supporting a few passive components. I was pleased to note that the four buttons in each control section employ LEDs for illumination, rather than incandescent bulbs (green for DI, red for phantom, yellow for the filter and orange for the polarity reversal).

Listening Tests

The DRS2 is exactly what I expected — a mic preamp from the old school. It has a classic, refined sound character which exudes the same kind of quality one might associate with vintage Neve designs. Indeed, the slightly rich, full character of this preamp would be perceived by many to be highly complimentary to a digital recording environment. The high end is extended and clean, while the mid-range seemed a tad warmer or thicker than my reference GML mic preamps. Overall, the DRS2 also seemed slightly noisier than the GML, but for many this will be easily outweighed by the additional functionality — the GML offers no filters, pads, fine gain controls, polarity reversals, earth lifts or DI inputs.

Talking of DI inputs, the facility on the Phoenix clearly presents a high input impedance — obviously over 1M(omega) — which suited all the electric guitar and acoustic pickups that I tried it with. Instrument tonality was perfectly preserved and the gain structure seemed sensibly chosen and easy to optimise with the output control.

I loved using the DRS2, and not least for its styling, which recalled many happy memories of the vintage Neve and Calrec broadcast consoles I daily relied upon during my formative broadcast career. There is a huge amount of gain available in this unit, which will appeal to *aficionados* of ribbon mics, and a reasonably low and neutral noise floor with an extended bandwidth. If you are seeking a distinctive, high-quality mic preamp with vintage design values, and either can't find or justify the expense of classic Neve units, you may well find what you are seeking in this offering from Phoenix Audio. SOS

information

£ £1233.75 including VAT.
T Phoenix Audio +44 (0)1438 360016.
F +44 (0)1438 360064.
E Click here to email
W www.phoenixaudio.net

Published in SOS February 2003