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Phoenix Audio (UK) DRS-2 Mic Preamp/DI

Smart, original design in a two-channel Class A unit

Reviewed by Dan Richards

Hailing from the UK is a Class A dual microphone preamplifier and DI. I've seen this unit mentioned on many recording newsgroups, often being confused with the crop of Neve emulators now on the market. For the record, the DRS-2 is designed from the ground up and is a completely original concept. The DRS-2 is the brainchild of David Rees and Shaun Leveque. Rees is well-known for his design of the Neve 2253 limiter and the Neve 2254 limiter/compressor. Leveque, who is the founder of Phoenix Audio International (UK), established the company in 1996 to provide a British service for owners of pre-1980 Neve recording consoles. From this comes an awesome heritage and a stage well-suited to launch original Class A designs.

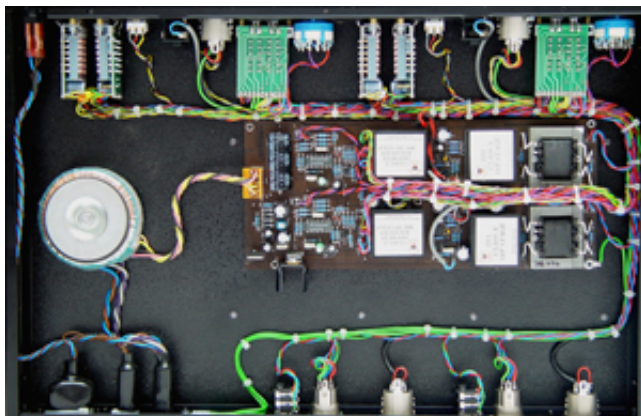


Out of the Box

The DRS-2 lists for \$2,495 and has a street price of around \$2,150. The first thing I noticed when pulling the DRS-2 from its packaging is that this unit is built like a tank. There's even a "mystique" to the DRS-2 that I usually find only on more vintage gear. The evaluation model I have has the maroon Marconi winged knobs, which I find to be an interesting touch. I asked Leveque about them and he replied, "This is simply because we supply hundreds of these original knobs to customers, in fact we have the original tool, and we liked them. This is one of the features we will be changing in the very near future because people instantly assume it's a 'Neve knock-off' simply because of the knobs we used."

The input gain knobs are stepped up in 5 dB increments from 30 dB to 70 dB with fine adjustments being made on the output-gain knob. A great touch and convenience on the DRS-2 is the inclusion of XLR mic inputs on the front, not just the back. Also included on the front panel are a -20 dB pad and an Earth lift button, as well as 1/4" TRS DI inputs and a power switch. My only initial gripe about the DRS-2 is the metering LEDs, which consist of a single green light and a single red light. But after further use these proved surprisingly informative and more accurate than a VU meter. The LED metering is a true PPM approach, with the green and red lights corresponding with the BBC's meter at "4" and "6". The DRS-2 is large and heavy for a single-rackspace unit, and is almost 12" deep. The paint job alone is *serious* and caught my attention. I asked Leveque about it: "The paint process is 'Powder Coat.' It involves electrostatically charging a paint that is in dry powder form (this a polyester-based paint), as it leaves the spray-gun. The piece to be painted is connected to earth, and therefore attracts the charged paint-powder. Then the paint is baked onto the panel at high temperature in an oven 200 degrees

Centigrade. This first turns the paint into a liquid form, which coats the panel evenly and then bakes solidly onto the panel. This is a standard process and produces an excellent, very hard-wearing painted finish," he said.



Behind the Design of the DRS-2

The DRS-2 started life as a design for a DI. The TF1 output stage was designed originally to replace the Neve 440 Class A/B output stage and to have a better frequency response and Class A sound. Then it was decided that because the output stage was so good, it could be incorporated as the output stage for a DI box, and designed with a custom discrete high impedance input stage for the DI. No FETs. According to Phoenix Audio (UK), "Then a customer asked us if we could add a mic stage, so

David Rees designed a completely new one from the ground up. This was the biggest challenge for us. We wanted to stay with Discrete because people love the sound of a good discrete circuit, and we wanted to make it Class A to stay in keeping with what we do best, and because people love Class A sound. We also wanted it to be truly balanced. And finally, because it is transformerless, we find it easily out-performs any transformer-based input for frequency response. If you put a square wave into the mic-stage, you get a perfectly square wave out. No droop, No losses."

The DRS-2 In Use

Over the couple of months we've had to test and use the DRS-2, it has proven to be an awesome addition to the studio and is one of the first pres we reach for on a number of applications. The transformerless input stage sounds open with its increased frequency response, and unlike slower transformer-based inputs, the DRS-2 is fast and yields rich details in the imagery and depth of the tracks recorded. The DRS-2 also has a "valve-like" quality to it, and when I commented about that to Leveque, he replied, "The "valve-like" qualities of the DRS-2 are far from accidental. An appropriate design with Class A discrete circuitry can achieve this type of sound."

DRS-2 Specs
Stereo 1U unit: 240V/110V mains voltage input selector switch
Outputs: XLR's and TSR 1/4" Jack on rear
Microphone inputs: XLR's on Front and Rear Panels
Individual Earth Lift: Push-button Switches
Gain range: 0dB minimum to +40dB maximum
Gain Range (Mic input): -30 to -70 in 5dB steps With 10dB more available on the fader
Gain reduction: -20dB pad push-button switch (Mic input)
High Input Impedance DI: Mono 1/4" Jack on front panel
Gain Meter: LED Metering

The overall sound of the DRS-2 is big, warm and airy. The extended frequency response shines on vocals and when used with mics that aren't shoved right up to the source. It gives the recorded tracks room to breathe. The DRS-2 was full and round on our DI sessions with a Lakeland P&J bass. A design specification that shouldn't go unnoticed is the truly balanced input stage, which allows for the grounding of either leg with no loss of dB. We normally find a 6dB loss on most other discrete and IC-based input stages, but not with the DRS-2. On guitar amps it brought out the "crunch" with a Shure SM57 in the cone and also the "tone" and "air" from a large condenser placed a few feet back and off-center from the speaker. The DRS-2 perfectly complements our collection of punchy API

Phantom Power: Switchable 48V phantom on Push-button Switches
High Pass Filter: on Push-button Switch
Phase Reverse: on Push-button Switch
Frequency Response: 20Hz to 20Khz +/- 0.5dB
Frequency Response Mic Input Stage: -0.4dB @ 40Hz, -0.3dB @ 25kHz
Frequency Response: DI Input Stage: -0.3dB @ 40Hz, - 0.5dB @ 25kHz
Typical Headroom: +24dB on Mic-Pre stage
DI Stage gain: Maximum of 20dB
Maximum Output: +26dBu @ 1Khz
Noise: -90dB @ 22Hz to 22KHz

pres. We found the transformerless input stage more than ample even for signals with inherently fast transient attacks, such as drum overheads and percussion. Even with ribbon mics, the gain is more than enough while still remaining quiet and crystal clear.

Another plus is that the gain input knobs do not make an audible clicking sound while in use. The DRS-2 has been nothing but a pleasure to use on every session since we received the unit in for evaluation.

An interesting "quirk" of the DRS-2 is that both the sets of XLR inputs in the front as well as the back remain active, making it possible to run two mics into the same channel *simultaneously*. Of course

the loads will change, but there's no reason you couldn't run four mics at once if it struck your fancy. Leveque commented, "We saw no reason to not leave them open. Perhaps someone will find some interesting applications."

That's Not All

The DRS-2 is the company's first microphone preamplifier offering and has been followed with the [DRS-1 single-channel version](#) [released in February 2003]. I offered some criticism to Phoenix Audio on many of the half-rack and third-rack units available that I, and many others, couldn't rack up in our 19" rack cases. Based on that suggestion the new DRS-1 also offers an optional 19" rackmountable faceplate. The more I use the DRS-2 and the more I learn about Phoenix Audio International (UK), the more I become a fan of this company and their products. I bought the DRS-2 sent for evaluation.

The DRS-2 is one the smartest and most original designs I've seen in a microphone preamplifier/DI. The exceptional frequency response and faster slew rate of a transformerless input stage coupled with a Class A discrete output stage sporting a custom-designed output transformer is truly a perfect marriage of different worlds and proves more versatile over more applications than most mic pres on the market.

Audio soundclips of the Phoenix Audio (UK) DRS-2 as well as other mic pres can be auditioned at [The Listening Sessions](#). Further information about the DRS-2 and other products can be found at the website for [Phoenix Audio International \(UK\)](#).

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This Phoenix Audio (UK) DRS-2 review has been updated and amended April 2005 for [Studio Reviews](#). Portions of this review were originally published by [Digital Pro Sound](#) in February 2003.

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