

# CEDAR Audio DNS1500

With content production values suffering at the hands of the budgetary constraint there's never been a better time to make audio amends with a dialogue noise suppressor.

**ROB JAMES** finds the new right tool for the job.

**A**round seven years ago CEDAR came up with a digital alternative to the Cat.43a (Dolby A) and Cat 430 (Dolby SR) analogue noise reducers with its DNS1000 dialogue noise suppressor. Like the Dolby units, its primary purpose was to improve location sound for picture recordings by removing extraneous background noise. As a bonus, it can also reduce reverberation.

It is a tribute to the essential rightness of the original concept that it has taken this long for a replacement to appear. Following the very sensible principle of 'if it ain't broke don't fix it' the DNS1500 builds on the foundations laid by the DNS1000, adding a number of useful tweaks while retaining all the sonic virtues of the original.

Cleaning up location recordings is one of the most time consuming aspects of sound for picture in documentaries and drama and the quality of location recordings has, in the main, deteriorated. This is not simply due to environmental factors but has a lot to do with diminishing budgets. ADR is one answer, at least for drama, but this is generally undesirable if it can be avoided and is always expensive.

We all have our favourite devices and techniques to help mitigate the worst excesses — filters, expanders, gates, and dynamic equalisers, like the BSS 901 — and the DNS1000 does not render all other devices redundant because some will be better with some problems than others. It is however, fair to say that the popular broad-band noise removal plug-ins are seldom effective at dealing with the kinds of pollutants the DNS process addresses so well. Live sound engineers and sound supervisors, whether for PA or broadcast, also realised that the low-latency DNS could help them too since they frequently also have to contend with less than perfect sources.

The DNS1500 follows the same form-factor as its predecessor in being a heavy desk-mounting unit with seven full-throw faders and six buttons (one fewer than the DNS1000). The look is sleeker and the buttons now light up blue, although the processing LEDs are still red and green, but otherwise it will be familiar to anyone who has seen a DNS1000. Around the back a pair of XLRs and a pair of phonos cater for AES-EBU and SPDIF I-O. The mains power supply is integral. An RJ45 Ethernet socket is new to the DNS1500 and is used solely for software upgrades.

Under the hood the changes are more profound. The original Texas Instruments DSP processors have been replaced by Analog Devices SHARCs and the unit now operates at sampling rates up to 96kHz. The other major change is that the channels are now analysed and processed separately. Before, the control logic, in what was in effect the sidechain, was summed in the interests of preventing stereo artefacts. Feedback from many users indicated that, in the majority of applications, two individual signals were more useful than the previous arrangement. In

practice, since the thresholds are set for both channels at the same time, there are no audible artefacts on stereo recordings while twin mono operation benefits from the new arrangement. More good news is that the price, UK£3500 + VAT, remains unchanged.

The 'missing' button is 'Both Channels'. On the DNS1500 simply pressing the Left and Right Channel buttons latches or unlatches each of them. On the right, the bypass switch is essential for regularly checking the effect. The remaining three keys determine the frequency range to be treated. Logically enough, the left-hand key gives low, the middle, mid and the right, high. A wider spread can be obtained by using the keys in combination either simultaneously or in quick succession while the first is flashing. Low and mid, mid and high or, by pressing the left and right keys together, full range. Selecting a range directs all of the filters within the DNS1500s to that part of the audio spectrum. The maximum frequency treated varies from 12kHz at 32kHz sampling rate to approximately 45kHz at 96kHz sampling rate.

The left-hand fader is used to set the overall level of noise present in the input signal. The remaining six faders have LEDs that indicate the activity in each of the control bands. Off equals less than +/-0.5dB of processing, green means cut and red indicates boost.

I did have a couple of minor operational issues with the DNS1500. Although the LED brightness can

be adjusted, this affects all of the indicator LEDs as well as the ones embedded in the buttons. The blue button LEDs are dimly lit to enable them to be located in studio lighting conditions and they increase in brightness when pressed. However, with the indicator LEDs set to a comfortable level, the difference in brightness between an On and Off button is not great and in certain lighting conditions it could be difficult to determine if buttons are on or off.

Also, since there are very few buttons on the unit they are all 'multi-function'. For example, pressing and holding the Left channel button accesses LED brightness on the main fader. This has necessitated using a momentary action when using the buttons operationally. The window during which

the button must be pressed and released in order to register a change is pretty short.

(A bit like having a fast double-click time on a mouse.) A further issue is that pressing and holding the 'band' buttons accesses a filter calibration mode and it is too easy to do this inadvertently. But, no

need to panic, after a lengthy conversation with CEDAR all these points are being addressed in the next software version. The button timing will be increased, button LED brightness will be independently adjustable and it will be made more difficult to enter calibration mode (*Can't think of many manufacturers that would be this responsive. Ed*).

Like its predecessor this unit is a near perfect compromise between effectiveness and simplicity of operation while providing adequate control over a highly complex process. Since its introduction, workers in other fields including forensics have discovered its virtues. Other CEDAR processes have been much imitated and it says a lot about DNS that no pretender to the throne has appeared thus far. The DNS1500 certainly isn't cheap but, when you consider that it remains the only game in town and has become absolutely indispensable to many engineers all over the world, it doesn't have to be. ■



**PROS** Simple and fast operation; outstanding results; a real-time low-latency device.

**CONS** Expensive; minor operational issues that have now been addressed; short travel button action may not suit everyone.

#### EXTRAS



**DNS1500 frequency ranges:**  
 Mid — 200Hz-6kHz  
 High — 4kHz-maximum  
 Low + Mid — 20Hz-6kHz  
 Mid + High — 200Hz-maximum  
 Full Range — 20Hz-maximum

#### Contact

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