



CEDAR DNS1000

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CEDAR is no stranger to audio restoration tools. The company is known for its cutting-edge, PC-based systems and plug-ins for studio workstations, as well as specialized rackmount units that offer near-real-time processing — declicking, decrackling, azimuth correction, etc. — of problematic source material. Now, CEDAR offers the DNS1000, a dynamic noise suppression device for cleaning vocal and dialog tracks.

Like other recent CEDAR hardware, the stereo DNS1000 has no analog I/O, which keeps costs down and lets users choose their preferred converters — or simply stay within the digital domain. Between the rear panel's XLR AES/EBU and coaxial S/PDIF digital I/Os are four LEDs that indicate input sample rate (32,44.1, 48 kHz) and whether the XLR or coax input is active. Although these LEDs offer useful indications of status and the presence of a stable signal, the rear panel location is inconvenient.

The DNS1000 has a deceptively simple interface — it's about the size of a console-top reverb controller — but there's a lot happening under the hood. The digital I/Os are 24bits wide, and the unit is driven by dual 40-bit, floating-point DSPs. The DNS1000 works by dividing the input signal into multiple bands. There are six faders on the control panel, but many more analysis and processing filters within the unit. A noise "Level Control" acts as a global threshold slider to determine at what point the noise suppression action kicks in— or stays out — and the processing depends on the interaction of the level control, the signal content and the algorithm itself.

Just punch a button or two to select a filter frequency range: Low (20 to 400 Hz); Mid (200 to 6,000 Hz); High (4k to 18k Hz); Lowplus Mid (20 to 6k Hz); Mid plus High (200 to 18k Hz) and Fullrange(10 Hz to 18k Hz). Six "Band Gain" faders (+6/-24 dB) determine the maximum amount of processing in each band, and their center points vary, depending on the selected filter range. For example, the filters are narrow if the High range only is set and much broader when Full range is selected.

The remaining controls (Left/Right/Stereo, for applying the processing to each of those choices, and Bypass) are much simpler to grok, and all operations become clear within a few minutes.

I began testing the DNS1000 by feeding it an assortment of dialog tracks with varying degrees of continuous noise problems. The key word here is *continuous*; the unit is not designed to remove transient noise sources, such as clicks, pops or burps, but steady-state noise problems, such as camera motors, rumble, rain, hiss, air conditioning, distant aircraft or traffic.

On a selection with excessive camera noise, a touch of mid-band processing attenuated the offensive sound almost completely, turning an unusable take into a clean track. Similar results were achieved on a vocal track with what sounded like hurricane-level amounts of wind noise. Here, the DNS1000 did the trick, offering deep noise attenuation without destroying the source material. Of course, it's possible to overdo the DNS1000 processing, resulting in a flat, lifeless recording, but the real-time controls make determining the right amount of filter action quick and simple.

One track that surprised me was some indoor dialog on which the mic placement seemed like it was 10 feet away. The take was boomy and reverberant, with poor intelligibility and way too much room tone. But by selecting the Low and Mid filters, setting all the faders to -24dB and adjusting the level control, I was able to use the DNS1000 to process the reverb tails on the end of each word, resulting in a clean track. I've never encountered a product that could do this — I'm impressed!

The DNS1000's ultrafast processing has a latency stated as less than 10 samples — about a quarter of a millisecond! So, for processing sync information (dialog tracks, etc.), latency isn't a factor; there's no need to slip tracks against timecode.

Priced at \$5,895, the CEDAR DNS1000 is a fast, effective tool for dealing with noise problems in dialog tracks. And with today's skyrocketing production and talent costs, a product that minimizes the need for pricey ADR sessions is very valuable indeed.

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