



CEDAR DNS One

The CEDAR DNS process has come out of the box and will be instantiating itself in a Pro Tools system near you soon.

MIKE AITON recommends you put shoes on before reading this review, as the plug-in will blow your socks off...

The latest addition to the family of Academy Award winning DNS (Dynamic Noise Suppression) products from those clever people at CEDAR in Cambridgeshire, is going to have you smashing your piggy banks, raiding the kids school fees account, or cancelling your week's skiing in Val D'Isere at Easter. Hyperbole apart, I have never come across a product that will have you gagging to buy as much as this – it's that good.

To illustrate, I borrowed some problematic drama dialogue from award winning Sound Editor Ben Norrington who has been working on the Law and Order series recently. The CEDAR DNS One made mincemeat of the problems. I ran some appalling war zone location sound from one of my recent Dispatches documentary for Channel 4 and some scenes from a True Stories film for Channel 4 – with the CEDAR DNS One trouncing the competition.

So, hopefully having whetted your appetite, a little history behind the product family for the uninitiated, whilst you wipe away the drool.

Pay Attention

In 2000 CEDAR launched the DNS1000 – which I was fortunate enough to test drive on my trusty AMS Logic 1 whilst a Senior Dubbing Mixer at Molinare.

It was a standalone desk top box with AES audio connections and seven faders. This product was soon to be often seen gracing the desk of any savvy post production sound mixer, often replacing the Dolby Cat 43 and Cat 430 units. In fact, the DNS Series was inspired by the need for a digital solution in this market, though CEDAR is keen to point out that the DNS algorithms and systems are a wholly new approach to the basic job niche – not simply an adaptation of what's gone before.

Simply put, the job is broadband noise reduction like no other – centred around a series of highly sophisticated digital filters. These filters analyse the incoming signal and suppress noise in each band in real time. That is, with a latency of a paltry few samples. And unlike many of the competitor's methods of broadband noise reduction, no digital 'learning' or sampling of clean noise patterns is required to subtract from the wanted audio.

The DNS1000 has subsequently been replaced by the DNS1500, which gives more flexibility in terms of processing two independent channels, plus higher bit depths and sampling rates.

The CEDAR team then listened to feedback from customers and noted the increased use of automated virtual mixes and the need to be able to react to Directors who have a tendency to have 'DFIs' (an old Ealing Film term for a Different ... Idea). The result was the DNS2000, which used a Pro Tools plug-in for control of the DNS hardware, which makes this system automatable.

The most recent hardware development has been the DNS3000, which combines the Pro Tools control of the DNS2000 with onboard scenes and automation, and touch-sensitive moving faders on a DNS1500-style control unit.

This opens up moving-fader automation to non Pro Tools users. The unit has other refinements too, such as an Ethernet connection device selection and control over an extended Ethernet network..

The interface for each of the products is the same for the whole product range. Six faders each control several of the digital filters, which is the key to CEDAR's innovative design, allowing the user a fine degree of precision but with relatively few controls.

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THE REVIEWER

MIKE AITON was weaned at the BBC, but after breaking free nearly 15 years ago and becoming one of London's busiest freelance dubbing mixers, he can mostly be found at his Twickenham dubbing suite, Mikerphonics. In his spare time he takes therapy for his poor guitar playing and his addiction to skiing.

Introducing

The CEDAR DNS One plug-in brings another dimension to this successful range. It's an RTAS plug in for Pro Tools that requires no external box whatsoever – and does the same award-winning noise suppression totally within the RTAS environment. It also reads, replays, and writes DNS2000/3000 automation, so sessions recorded on any one can be used with any other.

Installation was a cinch on my Intel MacPro, running 10.5.8 and Pro Tools 8.0.3. Plug in the supplied HASP (an alternative dongle-based authorisation), click on the auto installer, drag to your applications folder, and away you go. CEDAR is not using ILOK security and has no ILOK plans. It prefers the security of HASP. CEDAR dealers have a supply of authorised HASP dongles for anyone who wants to try out the plug-in on a demo basis. The HASP gives added flexibility of when and where you use your HASP lock without having to take your other ILOK assets too.

I would recommend the USB security box from Cadlock to physically protect your valuable assets.

When you instantiate the plug-in, a device selection box enables you to select from the DNS2000 and 3000 units, or DNS One. If you select the 3000 then you can use the DNS Network Scanner, which will detect any units attached by Ethernet to the computer.

In operation, you have six frequency range selection buttons, which, by using them in combinations, can split the spectrum up in six ways. Low, mid, and high selectors cover ranges 20Hz-400Hz, 200Hz-6kHz, and 4kHz-18kHz. Then there are two wider bands of Low and Mid (20Hz-6kHz), and



Mid and High (200Hz-18kHz). And finally, there is a full-range selector (20Hz-18kHz). The main six faders control filters across whatever range you select, so by honing your range selection during operation you will benefit from a higher 'resolution' of noise reduction.

If you're working with any Digidesign control surface, selecting plug-in flip mode will map the DNS One to your faders – including the range selection. By selecting your region (the smart amongst you will go into preview automation mode). Once you're familiar with the DNS process, you may well find that from here you can simply select the appropriate band and start fine-tuning the filters. However, I have found a good route to hunting down and refining the processing you are applying. Select 'full range' so that the suppression is working across the full frequency range. The default preset puts your other faders into start mode – where all the six band gain controls are at maximum processing (-24dB) and the master level control is at -80 (where no processing is actually occurring).

The next step is to slowly pull the level control up to set the threshold where the process is working and your noise starts disappearing. The meters on the graphic will show you which band is being processed. Following this you can start pulling band faders down towards the minimum amount of processing necessary to achieve a satisfactory result. You may want to adjust your range selection during this process. The idea is for the software to do as little superfluous work as possible with the highest density of filters for greatest flexibility.

This probably sounds more complicated than it is, but great results quickly become very fast to achieve. Waggling a few faders is far more intuitive than frigging around with sweeping frequencies and adjusting Q's and levels and so on, on an EQ plug-in for example.

When you are happy, apply automation to your region. Job done. There's no duplicating regions, pulling out the handles, rendering the extended version, saving the settings of the noise profile to the session plug in settings folder for possible recall, winding back the in and out points to the original locations, and reapplying fades. I get exhausted even thinking about the old Audiosuite way now.

The latency of the plug-in with my own HD3 system shows up as less than one sample, and on Mike's HD6 with expansion chassis it showed 24 samples. Actually, according to CEDAR, the plug-in has no latency, and the figures shown by the systems are simply due to the mechanism of



- ▶ hosting and administering the plug-in. The efficiency is unbelievable too. With my 3GHz Xenon Mac Pro with just one processor (of the four) enabled for RTAS, I instantiated over 50 plugs (100 channels) without going over 80% in the RTAS engine. Fantastic. The maximum number of instantiations is limited only by the power of your host.

In Use

I popped over to see top film Supervising Sound Editor Mike Wabro of Reelsound at Pinewood, who has been beta testing for CEDAR. Mike was as enthusiastic as me and we spent a joyful morning rescuing some appalling recordings of the Dali Lama meeting Prince Charles, covered in room noise, aeroplanes, birdsong, and traffic. It allowed us to rescue the recording and we both dropped our jaws at times.

We recorded a DNS One and a DNS2000 version of the same scene using the same automation. Once we adjusted for the difference in latency (the 2000 path has to leave the 192 interface, enter the 2000, and come back in to the 192) the recordings all but nulled. We thought if there was any difference at all it was an absolutely microscopic difference in the LF, with us actually preferring the DNS One. Here though we are splitting hairs, and the recordings did null to a very high degree. Please also note that we did this comparison on one example only.

It's clear that decisions about ADR can now be made with more confidence, earlier in the edit process, even on Pro Tools LE. This plug-in is so easy to use that if the film editorial dept has great monitoring, as it does at Reelsound, then much more work for the dialogue premix could be done before getting to the dubbing stage, saving time and money and allowing virtual premixes to be faster and more flexible on the stage. Of course, the Re-recording Mixer would be able to adjust any processing to taste should this be necessary.

Conclusion

CEDAR has always had a delightful approach to software upgrades and has looked after its customers royally – always a pleasure to do business with.

I for one will be rushing out and buying this plug in the day it comes out. It is hard to imagine a production these days where one will not need this tool.

In the cold hard light of day, there is no noise reduction software that will do everything to the exception of all others, but the DNS One is the closest, in my opinion, and the world of film and TV drama seem to agree. **FAW**

Mike Aiton wishes to thank Ben Norrington, Mike Wabro, and Susan Pennington of Spool, for their help in preparing this review.

INFORMATION

Ⓜ GB£2,500.00 (exc.VAT) ; GB£2,250 (ex VAT): Introductory offer until June 30th 2010.

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