

CEDAR DHX

CEDAR's budget Series X processors have helped remove noise from many people's grasp. Hush, whispers **Dave Foister**

CEDAR'S SERIES X has made a quiet splash. Facilities that for years had dreamed of having their own Cedar restoration processors suddenly had that option as the price of cleaning up plummeted. With little apparent compromise in terms of its capabilities, and few sacrifices in control functions, virtually the full armoury of Cedar weapons became available to a much wider audience.

Series X comprises three processors for the removal of clicks (DCX), crackles (CRX), and hiss (DHX). Their physical similarity shows the design philosophy that has made the range possible: they share a common board and chassis, with the different functions determined by firmware and requiring slightly differing controls poking through the same set of holes. The chassis and case are certainly not cheap items, lending a reassuringly robust feel and doing a remarkably thorough electrical job. Because of the nature of what goes on inside its equipment, Cedar's attention to EMI problems predates

effect as glugging, and generally the HF is seriously compromised and the whole signal is modulated. This is not a problem, as at this point the unit is seriously overworking. The position to look for is the point at which twittering gives way to glugging (not a terribly technical description, but that's how the manual describes it), as this means the base level of the noise has been identified. The next stage is to reduce the attenuation to nothing, effectively putting the system out of circuit, and then to advance it until the required amount of reduction has been applied to the hiss.

The third control is the most subtle, and the hardest to describe, partly because Cedar is understandably cagey about giving away too much of the workings of the algorithms. It is marked VARIANCE, and tells the process how variable or inconsistent the perceived problem is—how noisy the noise is, as Cedar puts it. Not surprisingly, the software can do a better job of removing noise if it remains constant, allowing greater precision and



the current regulations by some considerable time, and the integrity of these structures in this context would be hard to beat.

CEDAR's approach to the removal of hiss has seen, perhaps, more evolution over the years than any other of its processes. The software has developed in terms of both its efficacy, and the way it is operated by the user, becoming simpler to set up while getting better at its job. The full-blown NR3 system still retains the power of fingerprinting the noise and adjusting the resulting response, but the stand-alone units will operate without such preamble and deal with a remarkable range of noise characters in real time with minimal user intervention.

The DHX has only three adjustable controls, and, although they interact heavily, there is a simple and logical process for helping the unit identify and remove the noise. As with most CEDAR processes, this is a crucial point: the software does the bulk of the work, with the user helping to point the way rather than telling it exactly what to do. The most critical control is called LEVEL, and allows you to find the crossover point at which the unwanted noise can be eliminated. This is adjusted while the second control, called ATTENUATION, is at its most

extreme, and results in some very odd sounds indeed. As the 'threshold' of the noise is reached a twittering is heard, caused by the presence of low-level wanted signals around the noise floor, and as the LEVEL control is advanced further more serious side-effects appear. CEDAR describes the main

more effective reduction without side-effects. If the noise is less constant the process must not be allowed to be so aggressive as it will inevitably affect wanted signals. High values of Variance therefore make the Level setting considerably less critical and help when a fast setup is required, but if the nature of the noise allows lower settings to be used then the final processing will be better optimised.

In the short time I had the DHX I was lucky(!) enough to be faced with a DAT of a live concert recording that was unusually noisy as it had been recorded about 30dB below full scale by mistake. As somebody wanted an extract put on CD something had to be done, and the DHX was the obvious solution. All the parameters came into play to remove the noise: if I asked too much of it the atmos between items could be heard faintly twittering at high playback levels, so, although the musical items sounded pristine, I had to exercise a little more caution.

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A brief twiddle of the VARIANCE and LEVEL interaction produced the required result: a clean signal that could have its gain cranked up as necessary without anybody knowing there had ever been anything wrong.

Armed with an upgrade to version 1.02 software—introduced to cope better with the high amplitude transients of dance and rock music—the DHX follows in the Cedar tradition to provide an uncanny means of doing the apparently impossible. The difference is that now you might be able to afford it. ■