

Beyerdynamic Headzone

It's one of the great remaining challenges — how do you reproduce multichannel playback with headphones? ZENON SCHOEPE says you now can.



WHILE THERE HAVE been attempts at addressing the issue before, Beyerdynamic's Headzone is the most convincing commercially available product that delivers multichannel audio via headphones to date. It employs some pretty nifty digital trickery to achieve the impression of discrete out-of-head sources from a fairly standard pair of headphones and you can also move your head within that sound field just as you would in the real world with monitors. That's what it does but let's familiarise ourselves with the bits in the box or, rather, the case as the Headzone kit (UK£1500 + VAT) comes in a briefcase-sized bag.

The key components are the base unit, a pair of DT880 Pro headphones with a tracking sensor on the top, and a tracking receiver that detects your head's position. The main unit has a FireWire port, which allows you to program the unit and deliver digital audio to it, and six discrete phono inputs (with a +4/-10 switch) corresponding to the incoming analogue 5.1.

At its simplest, you plug your 5.1 feed into the phonos, you plug the tracking receiver into the back of the unit and then position it above your principle video monitor or other central point of reference, you plug the headphones into the main unit and enjoy the experience, hoping that you don't catch sight of your reflection because the tracking sensor sprouting from the top of your head will make you startle.

Base unit front panel controls are Analogue/Digital Input select, a Bypass that gives you a downmixed stereo of the multichannel input, albeit in the same virtual listening environment you created for the multichannel, and a Headtracker Status LED that turns red when your headphones are out of range of the receiver. The DT880 headphones would not have been my first choice — I'd never heard them before — but you have to use them because the system is optimised to the flatness of their reproduction and the tracker unit is built into the headband. You can, however, forfeit the tracking info and plug in any other type of headphone and just get 'stationary virtual' multichannel. I tried all my favourite cans on this and had to concede that the DT880s were by far the best for this application. They're really rather good although I'm not so keen on the velveteen ear muffs.

When in full Headtracking mode you can move your head within the sound field although you are limited to around 180 degrees either side of dead

centre in front; so you can't turn your back on the LCR and listen to the stereo rears, for example. There's a useful button on the top of the headphone band that allows you to re-centre your middle point of reference for instances where a video monitor, for example, is slightly to one side.

You program the box via the FireWire interface on a neat piece of software that allows you to alter various parameters. Permanent computer connection is not essential for ongoing use of Headzone as the base unit remembers the settings on disconnection.

Within the software you can change the position of the virtual loudspeakers, adjust the room size, your distance from the monitors, and the ambience. There is danger here of flying up your own trouser leg because the degree of adjustability can create rooms that are of no practical use to anyone. There's a page with metering — you only get the Input LED on the front panel reddening to warn of approaching clipping — and volume faders for the individual channels.

You have a number of options for the LFE, which has to be regarded as somewhat academic given that we are talking about headphones, but it's interesting to note that you could employ the LFE input as a comms input in a broadcast situation.

The programming is worth experimenting with but the manual does encourage the concept of creating a 'perfect' personal virtual multichannel environment, which I think is a little ambitious. My experience suggests that different types of incoming 5.1 required different 'rooms' to best represent them in the Headzone environment. Some prerecorded mixes sounded for more 'around the sides and back' than others within the same Headzone 'room' because they were mixed differently. That's a different scenario to one in which you are working on your own 5.1 mix because in this instance you have control of the positioning of the sources within that virtual environment. So there are two distinct interpretations — playback and mixing — but that's not terribly different from using real loudspeakers.

The point to remember is that all the issues

pertaining to 5.1 monitoring in a real room with monitors do not go away once you put the Headzone cans on; they are still there and you still have to deal with them. Raising the level of the rear channels for reasons of listening clarity, for example, like you might do with the rear speakers, has exactly the same implications within Headzone.

How your Headzone mixes transfer to real monitors is a difficult one to generalise on because it depends on what you are attempting. What I will say is that not-too-adventurous, multichannel sound field mixing transfers quite consistently and, crucially for me, the LR transfers solidly. I was worried that Headzone, with its objective to surround the listener, may have neglected the stereo but I don't think it does.

Of course, you can hear the process and it's more apparent on certain types of material than others — a thick, no dynamic range, rock track shows it up, for example. It seems to me that the more space and dynamic there is, the more the process likes it. The artefacts are not unpleasant but if you get a track with a steady pan going across the front and you move your head, then it's quite 'interesting'; but it would be interesting with monitors too. I will add that your proximity to the process does accentuate your sensitivity to it and I reckon you listen more critically in Headzone than you might to lacklustre monitoring in a poor room. Given that you are so directly enveloped in the sound, it's a marvel that it works as convincingly as it does.

It's a perfect solution for personal monitoring for a sound operator in a noisy OB truck, a good way to appraise multichannel privately, and its FireWire connection means you can integrate it elegantly with something like Logic by bringing its audio down the cable digitally. It's an obvious choice for audio folk in the games market.

There are connectivity issues; it could do with balanced analogue, independent digital inputs, and FireWire's not the universal DAW panacea that it could be. Programming the base unit via USB might have been smarter.

There's no getting away from the fact that Headzone uses some very clever digital processing to fool you into thinking that you're hearing sounds from all directions while wearing headphones. The only thing that's missing is height information; something that you certainly employ and encounter with real monitoring. I would differentiate Headzone from every other 'spatially widening' headphones playback environment I've heard purely because it works for me; and that's coming from someone

who is chronically unable to appreciate most psychoacoustic spatial trickery and is suspicious of it. Set up correctly, you can walk a sound around the back of your head — no doubt about it. It's very, very impressive. You have to hear this. ■

PROS The best multichannel headphones representation; great flexibility of set up; sounds great.

CONS Connectivity options; programming via FireWire only.

Contact

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