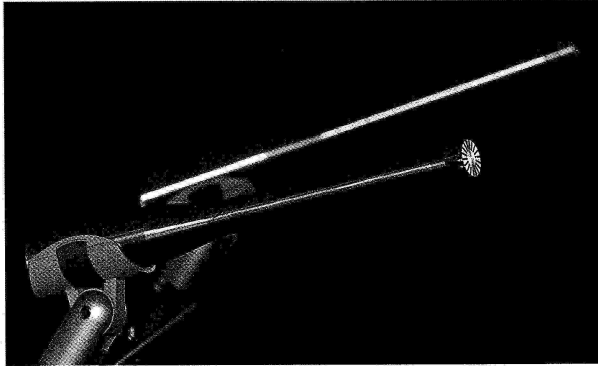


Sonodore RCM-402

Little known but commanding a large amount of respect, Sonodore's omni mics demand a higher profile. **Dave Foister** reports

ONE OF THE NICEST THINGS about the industry's revitalised enthusiasm for microphones has been the encouragement it's given to smaller companies and even individuals to share their ideas of what microphones should be about with the rest of us. The new names in the field aren't all Russian; some belong to people who have been hand-building custom microphones for some time,



and who see in the fresh appreciation of quality (and preparedness to pay for it) an opportunity to contribute their own expertise on a broader commercial basis.

One such is Rens Heijnis, whose company has been custom-building mixers, amplifiers and power supplies in Holland since 1988 and also uprating various items including microphones. Microphones have been built to special order, largely for classical music recording companies, and now an off-the-peg model is available, the Sonodore RCM-402.

One glance is enough to reveal that this is an omni microphone. The fact that it shares its distinctive shape with one or two other omnis, and that they all look like measurement microphones, is not just a crude attempt to make us believe that if it looks like a reference transducer it must be accurate; it's a function of its function.

If you need to put a small-diaphragm capsule on one end and an XLR connector on the other, and minimise the acoustic influence of the bodywork behind the capsule, this is the shape you end up with, just as one racing car looks pretty much like another. The Sonodores are particularly nicely made and finished, and the review samples were supplied as a pair in a sizeable foam-lined wooden box complete with adequate stand mounts.

Also provided was a power supply, complete with special cables. Sonodore's approach to the powering of these microphones is an important part of the design philosophy, and while they are not the first to rethink the way we operate condenser microphones, it's surprising that it's still such a rarity. It's fairly obvious that the limitations of what a standard phantom supply can deliver are liable to place restrictions on a microphone's performance. Phantom is always

fed to the microphone lines via current limiting resistors, which will rapidly drop an input's voltage rails as increasing current is drawn from it. This is quite intentional, designed to prevent one failed microphone taking out the entire phantom supply and hence all the other microphones, and with this in mind the relevant standards decree that no device shall draw more than 10mA.

It is not unusual for high SPLs to make a microphone place enough demand on the supply for its voltage to drop, with consequent loss of headroom and compromised performance. Hence Sonodore's dedicated power supply, which is mains operated, doesn't use the phantom at all, and delivers an unspecified voltage to the microphones down a 4-core cable with enough in reserve to avoid problems. As a sideline, it has struck me that valve microphones are always (for obvious reasons) powered in a similar way; could this explain the extra something they are reckoned to have?

The upshot is that not only does the RCM-402 claim to handle 143dB SPL, but it does it with virtually no change in its distortion figures from those at more modest levels, unlike its chosen comparison whose distortion increases by a factor of 50-100 at 130dB while the Sonodore remains approximately the same.

Another parameter subjected to special attention is the accuracy of the omnidirectional polar pattern and its uniformity with frequency. Obviously this is an important factor in the performance and flexibility of a microphone, but Sonodore's claim that other microphones' deficiencies in this area are primarily responsible for the 'hole-in-the-middle' commonly associated with A-B omni techniques strains credibility. If a spaced pair's lack of centre focus was simply due to off-axis response aberrations as Sonodore suggests it could be cured by angling them in to point at the central sources; however, a particularly good all-round response such as these seem to have can only help the overall image and enhance the sense of the recording space.

And indeed the response is particularly impressive. The small capsule size is reflected in the extended HF behaviour, and the low end once again challenges the view that big bass needs a big diaphragm. Transients and high levels are handled effortlessly, and the total lack of strain is strongly in evidence, producing an unusual transparency. The laws of physics dictate that self-noise is always going to be an issue in a design of this kind (from the mechanical bits, not the electronics) and all omni manufacturers address it carefully; the Sonodore succeeds especially well, minimising the tendency for the noise to undermine the obvious merits of the microphone. The RCM-402 has many of them, and competitively priced as it is it deserves a careful listen. ■

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