

Neumann KM-D

Nearly three years after his first Solution-D Neumann digital microphone encounter

JON THORNTON returns to the scene with a handful of sticks and reports on the development of the breed.

IT'S BEEN NEARLY three years since I first reviewed Neumann's D-01, the first microphone produced under the 'Solution-D' banner. At the time, I felt that it was a terrific proof of concept for a number of technologies — the use of AES42 and the most 'digital' of digital microphones, with a completely transparent transfer from capsule to A-D convertor. At the same time, though, the overwhelming impression was that it lacked something in the character stakes.

It's not entirely surprising then, that the proof of concept has filtered down into a number of other products, all based on the familiar stick microphone form factor of the Neumann KM 180 series. What I was interested to find out was how much further Solution-D has come in that time and indeed whether that all-important character has been retained.

The heart of the system is the KM-D body, which when mated with one of the three capsules on offer is pretty much identical in size to the analogue KM series. Inside this compact package is crammed the powering, A-D and DSP required by the microphone in a tidy bit of electronic design and packaging, although it does run quite warm as a result.

Connection to the KM-D is via AES 42 only, which allows both upstream and downstream data. Unless

you're one of the fortunate few who has this standard supported natively by your recording system, one of Neumann's own solutions for converting this to AES3 is required. At the high end, this comes in the form of the DMI-2, the interface that accompanied the original D-01 microphone. This accepts two channels of AES42 data and converts them to AES3 signals, and allows the microphone's convertors to either run asynchronously, or to be clocked by the DMI-2 itself or from an external Word clock source. Connecting the DMI-2 to a PC or Mac over USB also allows the user to run some pretty comprehensive remote control software — more of which later.

A more basic conversion option is also available. This takes the form of a small rectangular box with an XLR input, and an XLR output on a flying lead. DC power is applied to the box from an external power supply. Connecting a KM-D to the box then gives an AES3 output on the flying lead. Sample rate in this case is preset at 48kHz, and there is no way of synchronising the microphone to an external clock. An SPDIF version of this kit is also on offer.

The KM-D family is available in black Nextel or satin nickel finish, and three capsules are currently on offer (more are planned), which simply screw onto the KM-D body. The capsules themselves will be familiar to KM180 series users, being the 184 cardioid, 183 omni and 185 hypercardioid. First impressions with the 183 omni are that, aside from being eerily quiet, it sounds very similar to the KM183. With its 7dB presence boost at 10kHz in the free field it's a fairly bright sounding microphone close in, but respectably neutral in terms of the diffuse field despite a tendency to move towards a hypercardioid response at high frequencies. On a 12-string acoustic it's nice and bright with good transient response and plenty of harmonic detail at the low end. The 184 capsule in the same position sounded a little more muted, but tonally smoother and still with a nicely defined attack to the strings though.

In a slightly larger space, the 183 capsule shines, although as a distant ORTF pair on a choir they resolve plenty of detail with great stereo imaging, and really succeed in capturing the low frequency energy of the room in a very balanced manner. Most impressive is that they are absurdly quiet for a small diaphragm capacitor design — testament to what you can achieve by taking all of the analogue electronics out of the signal path.

To get the most out of the KM-D series, though, you really need to use the DMI-2 interface unit and the associated Remote Control Software (RCS). This has developed nicely since the first version I encountered, and looks altogether a little more polished. As well

as offering many more possibilities for synchronisation options, the microphones' internal DSP can also be remotely adjusted to give control over pre-attenuation of the microphone, gain, a high-pass filter and even a built-in limiter/de-esser with full control over threshold, ratio, and time constants.

The limiter in particular is a useful feature even when used as a set-and-forget safety net.

RCS is designed to work with all Solution-D microphones, and they identify themselves to the system as soon as they are plugged in. Obviously, with the KM-D range there is no facility to remotely change the polar pattern as it is fixed by capsule choice, but apart from only being able to control one LED on the KM-D mic body rather than the two on the D-01, all other functions are supported. Many inactive features on the original version of the software, such as noise gates and EQ, have disappeared. Neumann has clearly decided that they are best left to others and the software is a lot more streamlined as a result. A particularly neat new feature is the ability to store the current settings for the KM-D's DSP in the microphone itself. These are then re-instated the next time the mic is powered up without RCS being available. This is particularly useful if using one of the more basic interfacing options.

In summary, the KM-D range seems to be a good step forward in the Solution-D project. Everything seems just that little bit less experimental and more focussed towards getting the job done. And perhaps it's just that you expect small diaphragm designs to be that little bit more clinical sounding than large diaphragm ones — or maybe it's that Neumann has stuck with capsules that people already know rather than developing new ones — but this time I wasn't left with the feeling that removing the analogue electronics had also somehow removed the soul of the microphone. ■



PROS

Good range of capsules; tidy packaging; range of options for interfacing from simple to complex; quiet, detailed and responsive; RCS a whole lot neater than it was; no preamp or A-D choices to consider.

CONS

Entry level still quite expensive; not sure that the entry level solution offers much more than a standard KM series with a good preamp; no preamp or A-D choices to consider (some of us like that!)

EXTRAS

Neumann offers Connection Kits for connection of individual microphones to



SPDIF and AES-EBU interfaces with an update to the functionality of the DMI-2 possible. A plug-in power supply is included as standard and a Battery Pack is an option. Two Neumann starter sets offer a KM 184 D mic and a Connection Kit.

Contact

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