Neumann TLM103D & TLM67

These two new microphones from Neumann are very different propositions, yet they have one thing in common — they are both updated versions of older designs. JON THORNTON puts a foot in both domains.

The TLM103D is yet another addition to the growing range of the company's Solution-D digital microphones and the TLM67 is a modern take on the venerable U67. Starting with the TLM103D, and externally it appears almost identical to its wholly analogue stable mate — save for a small indent scooped out of the casework's lip to accommodate a single blue LED, and the blue Neumann badge that indicates it is part of the Solution-D family. Using the same fixed pattern cardioid capsule as the TLM103, the big difference here is that the output is digital with the A-D process occurring immediately after the capsule output. The usual XLR output on the base carries an AES42 digital signal, a standard that is still not commonly found on other studio equipment, so some additional interfacing is required to generate a more universally accepted digital signal.

There are many options here — a simple 'starter kit' includes the microphone and a SPDIF or AES-EBU connection kit (TLM 103D Euro 1280, Starter Set Euro 1595 both plus VAT). Each of these comprises a small black box with an accompanying external PSU. Connecting the interface to the TLM103D via an XLR cable supplies the microphone with the requisite digital phantom power, and outputs either an SPDIF or AES-EBU signal at the interface, depending on the option chosen.

While the starter kits are the obvious choice for a single microphone feeding a single source, they do have a number of limitations. The most obvious, and perhaps the most significant one, is that the sample rate of the microphone's A-D convertor is preset and fixed at either 44.1 or 48kHz. So working at different sample rates, or indeed using anything other than the digital output of the microphone as a sample clock source for the recording system is going to require using some form of sample rate convertor. The second, and less immediately obvious limitation, is that these simple connection solutions really don't exploit the true power of AES42 as a duplex connection for remote control purposes, or the fairly significant amount of DSP available onboard the microphone itself to precondition the signal in a number of ways. The solution to both of these problems is to use the rather more sophisticated (and costly) DMI-2 interface unit as was supplied with the review unit.

A single DMI-2 can operate up to two microphones from the Solution-D range, and multiple units can be cascaded together for control purposes using the supplied RCS software on Mac or PC. Again, the hardware interface connects over AES42 to the microphone(s), and then outputs an AES-EBU signal. The difference here is that the microphone can be set to effectively clock using its own internal clock or an external source at sample rates up to 192kHz. These settings are made using the supplied software, together with a number of other DSP-based functions. These include setting the digital gain of the device, a low-cut filter at 40Hz and a built-in peak limiter with an adjustable threshold set at some point below 0dBFS to provide an additional safety net when recording.

It's clear that Neumann has continued to develop the RCS software on a continuous basis. Since I last looked at it, they have made some notable improvements to the GUI — it just looks and feels a little less prototypical than the earlier versions, and they have also beefed up the compressor/limiter functions available in the microphone's DSP. In addition to the peak limiter function, there is now an additional compressor/limiter with fully variable threshold, ratio and time constants and the ability to work in broadband mode or to restrict its action to frequencies above 1k, 2k or 4k — making it quite useful as a de-essing tool. All in all, it's a clear intuitive interface; if a little susceptible to lag on the on-screen metering, at least on my ageing G4 PowerBook. It's also worth pointing out that all settings are retained by the microphone itself, rather than by the interface unit or the software.

Whichever interfacing option you choose it's clear that the quest for moving the A-D process as far up the signal chain as possible comes at a price. And this is not an economic one, but rather the quantity of cables, boxes, power supplies and computers that seem to be needed simply to get the microphone up and running — at least until AES42 becomes more widely adopted by other equipment manufacturers. From this perspective, there's a lot to be said for Neumann's other new offering, the TLM67.

Billed as a modern take on the venerable U67, the TLM67 is a large diaphragm, multipattern condenser that features the same twin K67 capsule as the original U67. The significant difference is that the original U67 featured valve-based electronics with the associated external power supplies while the new version uses solid-state electronics and a transformerless output stage, but these electronics are tweaked to give a 'valve-like' sound quality — an approach that worked surprisingly well with the fixed pattern TLM49.

Externally, the TLM67 (Euro 1680 + VAT) has the familiar shape of the original, shared with the later U87, although this version acts as something of a commemorative edition celebrating 80 years of the company and so has a distinctive two-tone colour scheme and a three-dimensional metal badge on the front with a rather stern looking portrait of founder Georg Neumann. Three polar patterns are on offer — cardioid, omni and fig-8, selected by a slide switch on the front of the microphone, and a switchable -10dB pad and high-pass filter are also in evidence on the rear of the microphone.

The net result is that setting these two new offerings up side by side was a little like history repeating itself, albeit in reverse — the Neumann TLM67 neatly plugged in via a single XLR and powered by phantom and the latest TLM103 festooned with interface boxes and external power supplies.

The sonic qualities of the two microphones are also markedly different. I was able to compare the TLM103D directly with its analogue stable mate. The 103D sounds immediately much brighter and more present than the TLM103 no doubt partly due to the

aging of the diaphragm in my TLM103. But there's also an element of what I've come to recognise as the 'Solution-D Sound', which is best described as putting you one step closer to the original source. You have to remember that the A-D stage happens immediately after the capsule, and any artefacts introduced by the non-linear network employed at this stage are inherently cancelled out. What this amounts to is that you're never hearing the effects of microphone electronics and/or transformers, something that we've got used to. You've also not got the added effects of the interplay between microphone and preamplifier — so choosing a mic/pre combination becomes a thing of the past. And it's for all of these reasons that I'm never really sure whether the 'Solution-D Sound' is really something I like. I've come to the conclusion that it's best seen as simply another choice — there are always going to be occasions when a favoured analogue mic/pre combination is going to be the better, if less technically accurate choice.

But as one choice, the TLM103D has much to offer. On speech it sounds forward and detailed with an obvious very wide presence boost above 4kHz and a fairly steep roll-off from 15kHz upwards. This suits male and female speech well, although it can sound a little too forward on some sung vocals. The published specs place it almost exactly on a level with the normal TLM103 in terms of equivalent noise and frequency response and, observations about the relative age of the diaphragms aside, this seems to be very much the case. Where the 103D seems to differ is in its ability to resolve transient detail, particularly in the high-mid range. On acoustic guitar this is very noticeable, as it seems to bring the instrument right out of the speakers in a way that the normal 103 simply doesn't. What you do realise, though, is that it's very much a one trick pony — it has an overall

tonality that is quite bright and slightly edgy that even miking off-axis doesn't change too much.

The TLM67 is almost the complete opposite tonally. I can't compare it with the original U67, but comparisons with the ubiquitous U87 are somewhat inevitable and it's a very different sounding microphone. With the cardioid pattern selected the TLM67 sounds remarkably neutral, with an early HF roll-off that sounds natural rather than dull. Compared with the HF presence bump on the U87, the TLM67 sounds rather understated but that is really the point. Yes, there's a hint of 'valveness' in the mid range, but this is a wonderfully un-hyped microphone, which for a large diaphragm design is somewhat unusual in this day and age. On male and female vocals it sounds completely unflustered — there's never a hint of edginess to the sound or overly hyped HF. And while this slightly mellow sound may not suit every production, the TLM67 seems to work well with most singers.

Changing polar patterns actually changes the tonality of the microphone quite markedly. The fig-8 pattern seems to introduce a definite tilt towards the HF, while the omni pattern introduces a little more air to the sound while leaving the LF response untouched. Remembering that the TLM49 proved to be a stonking microphone for recording bass cabs, I tried the TLM67 in the same application. With the cardioid pattern selected it didn't really deliver the sound I was after, but with the omni and fig-8 patterns it sounded very useful indeed — deeper and fuller set to omni, a little more bite set to fig-8.

Both of these microphones are worthy additions to the Neumann range but they are as different as chalk and cheese. With all its associated paraphernalia, the TLM103D is an impressive performer with a very distinctive sound but that is really all it does. If you like the sound, or if utter repeatability is important in your workflow (ADR or voiceovers, for example), it is a good choice and offers a relatively affordable step into the world of digital microphones and minimum signal path. The TLM67, on the other hand, is a flexible, multifaceted performer that delivers an understated but hugely competent performance in a variety of different applications. It's great to see Neumann continue its drive towards making the choice of microphone, both analogue and digital, wider and more affordable. Yet I can't help but feel that the rather stern looking bust of Georg Neumann is sitting on the right microphone of the two.

PROS

TLM 103D is a competent, relatively affordable entry to the Solution-D range; TLM67 is a versatile, neutral and honest sounding microphone.

CONS

TLM103D very much a one-trick pony; a lot of paraphernalia needed to get the microphone up and running; expensive DMI-2 needed to fully exploit capabilities; TLM67 might sound a little too mellow for some production styles especially on vocals.

Contact

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