

SPECIAL ISSUE! Classic & Modern Microphones For Your Studio

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REVIEW

BY PAUL VNUK JR.



just *impressive!* And that trend continues with the new TLM 107; it's the company's first multipattern condenser mic to fall below \$2000.

Like the TLM 102, the TLM 107 has no illusions of trying to sound like any of the Neumann greats of yesteryear. Instead this microphone focuses on clarity and uncolored tonality, thanks to its modern capsule design as well as innovative circuit design and controls. Readers should be aware that while the TLM 107 does share a similar design philosophy and even some sonic characteristics heard in the TLM 102, the TLM 107 is *not* simply a TLM 102 that offers multiple polar patterns; as we'll see and hear, it has a very appealing character all its own.

The newest number 7

Romantically I like to think that Neumann reserves the number 7 for microphones that are destined to be cornerstones in their line. I shouldn't give away the ending of my review so early, but I do think the TLM 107 is destined to be just that.

Starting with the physical: the TLM 107, like all Neumann mics, is handmade in Germany. It measures roughly 5³/₄" tall by 2¹/₂" across and weighs just shy of a pound. It is available in either black or nickel with a matching double mesh grille. While its size and shape nods toward many of Neumann's past TLM models like the TLM 103, it's much more sculpted and modern-looking.

It comes in a simple package with a wooden, foam rubber-lined box and a standard mic mount. Neumann have created a brand new shock mount design, the EA-4, which fits not only the TLM 107, but the TLM 102 and 103 as well; it's available as an option.

Inside

The pressure gradient transducer/capsule in the TLM 107 is a completely new design made for this mic. It does however draw heavily on the capsule found in Neumann's all digital D 01 (Solution-D) mic, which is likewise known for its transparent fidelity. It is a dual-diaphragm, edge-terminated design with both diaphragms set to ground voltage. This helps make the capsule less sensitive to both humidity and dust particles. As any Neumann user will know, the TLM designation means the electronics are transformerless.

Neumann TLM 107

Condenser Microphone

Modern touches to classic tone create a modern legend

I can't think of a better place than in this megamicrophone issue to introduce our readers to the latest mic from Neumann, the TLM 107.

With a history of creating some of the most legendary microphones of all time, Neumann continues to this day creating mics, such as the U87A1, that are benchmarks against which other microphones are judged. The downside is that most Neumann models come with fairly substantial price tags. Until recently, that is!

A few years ago Neumann created the company's first large-diaphragm condenser microphone to fall well below the \$1000 mark: the cardioid TLM 102. At an average street price of \$699, this was a neutral-flavored Neumann aimed squarely at the growing market of home and project studios. As we saw in Paul Stamler's review of it in our April 2010 issue, it is an impressive mic—not "for the price," it's

The TLM 107 features five selectable polar patterns: Omni, Wide Cardioid, Cardioid, Hypercardioid, and Figure-8. It also features two levels of signal attenuation, -6 dB and -12 dB, and lastly it has not one but two available highpass filters, with corner frequencies set at 40 Hz and 100 Hz.

On its own this is a pretty healthy feature set, but it is how the settings are accessed and controlled that really puts the TLM 107 over the top. All of the functions and settings on the TLM 107 are digitally controlled. This is not a new idea and we have seen it before in mics from AKG and Lewitt, but the way Neumann chose to implement it is unique and appealing.

One Joystick to rule them all

Much like the touch wheel on pre-touchscreen generation iPods, where one dial controlled a host of functions, the TLM 107 uses a tiny silver pushbutton/joystick to scroll through and select your settings.

Using the joystick is simple. Once the microphone is hooked up to phantom power, simply push the joystick in. This illuminates the current settings on the mic with very bright white LED backlighting and activates the navigation controls.

To the left of the joystick are the mic's attenuation settings, to the right are the highpass filter choices, and under the joystick are illuminated symbols for each

polar pattern. Pushing the navigation button to the left or right scrolls through each side's settings in a round-robin fashion. To change polar patterns, simply move the joystick up or down to scroll back and forth through the patterns.

The TLM 107 stores its last settings upon power-down, and once you have made your selections the lighted controls will turn off after 15 seconds. At first I did not realize this and when I saw that the lights had gone out, I feared my mic had lost phantom power! This is also a good place to note that switching between settings, including polar patterns, is completely silent and produces no pops or thumps, an issue heard on many competing microphones.

Specs

Like most modern mics the TLM 107 has a 20 Hz to 20 kHz frequency response. Regardless of polar pattern the TLM 107 is ruler flat from 200 Hz up to 3 kHz. Below that it is flat all the way down to 40 Hz in Omni, Wide Cardioid, and Cardioid. In Hypercardioid and Figure-8, the low end slopes gently down from 200 Hz.

On the upper end there is a slight 2 dB dip at both 4 kHz and 8 kHz that gently smooths out as you move from Omni down to Figure-8. Lastly there is a roughly 5 dB bump at 12 kHz, which also smooths down significantly as you move again from Omni to Figure-8, averaging out in Cardioid mode at 2 dB. So there is a bit of 12 kHz 'air', but it is not even close to the high-end push of many modern microphones, including some past Neumann models.

When listening to the mic and switching patterns I was impressed by the overall tonal constancy from pattern to pattern. Using my ears rather than the graphs, I found the variations between patterns are even smoother and more minute than the frequency graphs imply.

Further specs include: sensitivity of 11 mV/Pa (1 kHz, into 1 kilohm); impedance of 50 ohms with 1 kilohm load impedance; Equivalent noise level of 10 dBA and signal/noise ratio of 84 dBA, with 141 dB maximum SPL unpadding and up to 153 dB SPL with the 12 dB pad in place.

In use

I saw and first heard this microphone at AES last year, and I couldn't wait to put it through its paces. I was sent a pair in black, and I put them to work instantly on drum overheads, both as a spaced pair

and later in a minimal Glyn Johns setup with one mic over the snare and the other on the side by the low tom and ride. In both instances I was impressed by the clarity, realism and depth that the TLM 107 provided. The top end of the TLM 107, despite its 10-12 kHz bump, is an open and natural sounding mic, but it is very slightly silky rather than bright.

Next up I had a ton of vocal sessions all in the same week, so rather than auditioning different mics on each singer, I put up one TLM 107 and let it fly. Trusting one mic sight unseen (or in this case sound unheard) may have been a gamble, but it

more vibey or singer-specific. The same thing happened later in the week when tracking a three-piece Celtic folk group with two males and a female singer. Even on a cappella tracks, the mic was just natural, open, and frankly stunning.

A quick word about the highpass filters in the TLM 107: they are very well-implemented and largely unobtrusive. Some mics sound like something is missing when high-passed at the mic, and I usually leave the mics at full and use the highpass on my EQ during mixdown. Not so on the TLM 107! The 40 Hz setting was great on the drum kit, while 100 Hz worked well on most of the voices—except for the lone baritone singer, where I went back to 40 Hz just to be safe.

I also used the TLM 107 on some beautiful folky Martin acoustic guitar tracks; it captured a great balance of smooth controlled body tone along with controlled yet detailed picking and strumming sound.

Really there was no source where I would not use the TLM 107. This is a fantastic all-around workhorse and one of the most neutral microphones Neumann has made, this side of the D 01.

Overall this mic is natural, honest, and largely unobtrusive with just the perfect hint of silky sweetness on the top end to keep it from being labeled as clinical or sterile. Warning, though, this mic has no thickness and no vibe—in fact even its proximity effect is subdued, even, and minimal throughout all the patterns, with the exception of Omni mode, where there is essentially zero proximity effect. To get that extra shot of low push, you'll need to be up on the mic, no more than an inch or two away.

Conclusion

It's nice to see Neumann looking boldly forward with a new sound and direction that can sit proudly along side its legacy mics of the past, rather than trying to recapture a vintage vibe. This mic, along with the TLM 102, is the start of a range of great new high-quality mics for the future.

OK, I will admit that \$1699 street is not necessarily entry-level. But this is a mic that, if you save up for it, would do well as your one and only large-diaphragm condenser. Even if your mic locker is huge, the TLM 107 offers a clean, silky tone you simply must hear! ➔

Price: \$1699; EA-4 shockmount, \$130

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was one that paid off nicely. And honestly, how much of a gamble could it be... I mean, *Neumann*?

The first session of the week was a choir demonstration CD, where one person sings the various parts for choir sections to learn. This gave me a chance to hear a male bass and tenor and female alto and soprano parts. In each instance the mic was clean and clear and stayed out of the way, and never once did I have the urge to change it out for something