

Neumann M49V

Large-diaphragm Capacitor Microphone

More than 50 years after it was discontinued, Neumann have reissued one of the greatest mics of all time.

SAM INGLIS

There's a school of thought that says microphone design peaked in the 1950s. Since then, the argument runs, microphones have got cheaper, less noisy, more convenient, perhaps more consistent and more reliable — but they don't sound better.

This is a debate that is hard to settle one way or the other. We can't go back in time to see how Sinatra or the Beatles would have sounded on modern microphones. And if capacitor mic design really hasn't improved since then, perhaps that is actually because our reverence for classic Neumann and AKG designs is stifling innovation. These originals are now prized artefacts that command huge prices, but more than half a century on, we have no way of knowing whether they still sound the same as they did when they were new. Or do we?

Going Back In Time

In 2015, Neumann "recommended production" of their U47 FET microphone. A later, solid-state design that never

quite had the cachet of the valve original, the FET 47 had nevertheless become quite sought-after, and it was widely agreed that Neumann got it spot-on with the new version. It turned out, moreover, that the reintroduced FET 47 was a toe in the water, trailing a much more ambitious reissue project. In 2018, Neumann launched a new version of one of their undisputed classic valve microphones, the U67.

Their reasons for choosing that model were fairly obvious. Not only does it share a capsule with the current U87 Ai, but unlike most vintage Neumann designs, it uses a valve that is still in production. Nevertheless, the U67 reissue required a huge amount of work, not least to recreate its unique and complex transformer, and to re-engineer the power supply to meet modern electrical standards. Neumann's attention to detail and willingness to go the extra mile in these matters seems to have won over most vintage mic aficionados. And now, flushed with success, they've followed up the U67 with their boldest reissue yet.

The 49 Steps

Designed in conjunction with one of post-war Germany's regional broadcasters and introduced in 1951, the Neumann M49 followed hot on the heels of the U47 — the world's first switchable-pattern capacitor mic, and another all-time classic. The M49

introduced several further technical breakthroughs, the most notable being its continuously variable pattern control. Whereas the

U47 had a choice of cardioid or omni modes, the newer mic could sweep the entire range from figure-8 at one end to omni at the other, with cardioid in the centre position. Equally revolutionary was its form factor. Sitting atop a stubby body, its large, wedge-shaped headbasket

Neumann M49V

€8495

PROS

- Meticulous recreation of the classic M49c, with a few minor but well-judged improvements.
- Sounds good on practically everything!

CONS

- I can't afford one.

SUMMARY

Sometimes they do still make 'em like they used to, and the Neumann M49V is living proof.



reduced unwanted acoustic phenomena around the capsule, and was also used for the M50 small-diaphragm microphone.

The M49 remained in Neumann's line-up until 1971, and underwent several revisions during this time. Of these, probably the most significant was the replacement of the M7 capsule used in early examples, which had a PVC diaphragm known to deteriorate with age, by the newer K49, with its more durable Mylar diaphragm. The K49 has been in continuous production ever since, and is featured in several current Neumann models including the FET 47, so this aspect of the reissue project would appear fairly straightforward!

The same cannot be said of the situation regarding valves. The earliest M49s were built around the Hiller MSC2, the world's first 'subminiature' valve, but Neumann soon switched to the Telefunken AC701, another subminiature valve designed especially for use in microphones. Both are long out of production, the expertise and tooling required to make them is lost, and there is no reliable or affordable supply of new old stock. In order to reissue the M49, then, Neumann had to deal with two fairly thorny questions. What valve could they use that would be widely available and comparable in performance to the AC701? And which revision of the original M49 should the reissue mimic?

M49 Your Way

Perhaps understandably, Neumann have been cagey regarding the valve they're using. We know it's a subminiature valve, and Neumann say that it actually outperforms the AC701 in this application. Beyond that, they've been tight-lipped, which is forgivable given that they need to secure lasting supplies of this valve.

By contrast, they've been both open and accommodating in respect of the various design changes that occurred during the M49's career, though unsurprisingly

Among the subtle improvements Neumann have made is the rubber shock absorber integrated into the yoke mount.



there's no M7 capsule option. In its default configuration, the M49V replicates the last and most popular 'c' variant of the M49. However, two internal switches can be used to reconfigure the electronics. One of these lowers the corner frequency of the built-in high-pass filter from 30Hz to 12Hz, approximating the sound of early M49s that did not have this feature whilst retaining some protection against rumble and stand-borne noise. The other is a 'cardioid only' switch, which defeats the pattern control and takes the rear diaphragm out of circuit. This delivers higher sensitivity and lower noise, at the cost of placing the mic permanently in cardioid mode. These switches are not designed to be user-operated, the idea being that you order the mic set up to your preference. The review mic was set to the default M49c configuration, with

the pattern control active and the filter at 30Hz.

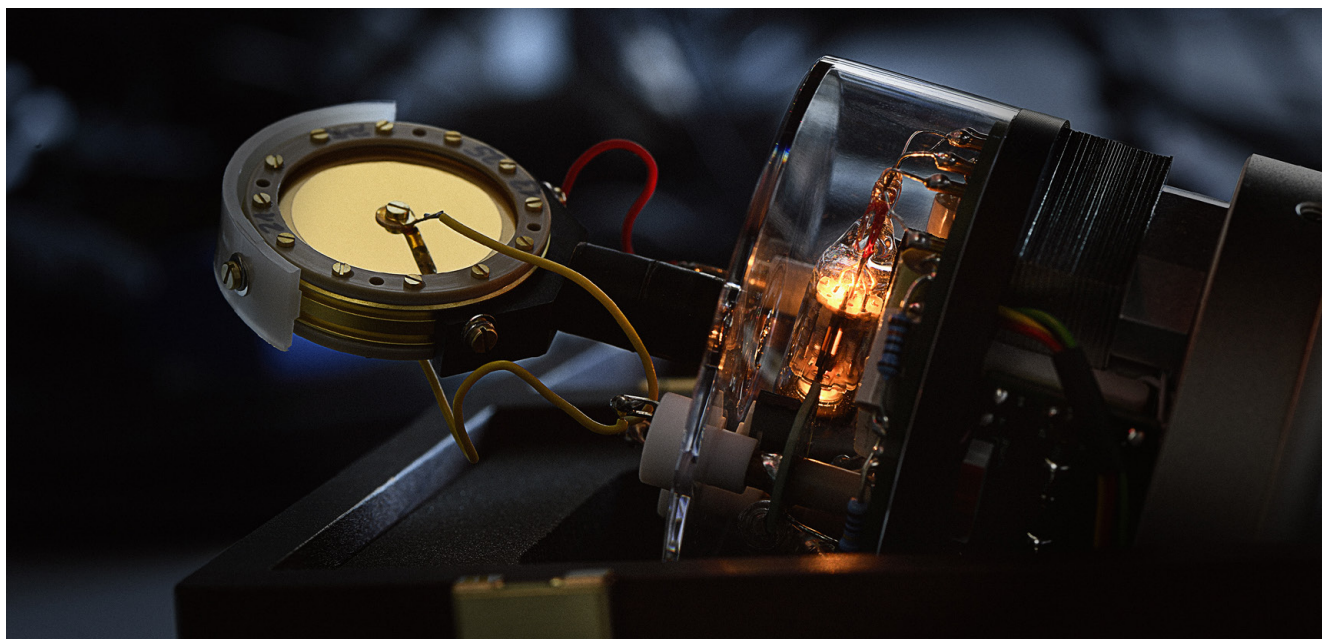
If the microphone itself is, to most intents and purposes, historically accurate, Neumann haven't felt constrained to take the same approach with the PSU, and the new NM V seems a wholesale improvement. It's still a linear rather than switched-mode design, but adapts automatically to any mains voltage. More impressively, it is also capable of optimising the valve heater voltage automatically to suit not only the M49V but any vintage M49 (the new valve runs at a different heater voltage from the AC701). So, if you have an original with a PSU that is beyond repair, there's now an official replacement that is truly plug and play.

Out Of The Box

Everything is supplied in a very smart briefcase with fitted inserts for the individual components and, as you'd expect, the build quality and attention to detail are beyond reproach. For example, Neumann have recreated the yoke mount of the original M49, and the new part is compatible with vintage examples — but, unlike the original, it incorporates rubber shock absorbers that help to isolate the mic from bumps and vibrations. The PSU houses the pattern control and the output XLR, and connects to the mic by a surprisingly thin and flexible multicore cable terminating in locking Binder 7-pin plugs. At the mic end, the shielded connector found on the »



The new NM V power supply is capable of powering vintage M49s as well as the new reissue.



» broadcast-oriented M249 variant is used, since RF pollution is much more common nowadays than it was in 1952!

The specifications quote a noise level of between 19 and 21 dBA depending on the pattern setting. This is high by modern standards, but in practice you have to be very heavy-handed with compression on close-miked sources before any hiss becomes audible. As with many multi-pattern mics, on-axis frequency response varies significantly with pattern. At the omni end of the dial, it's fairly flat through the midrange and there's a noticeable but not unpleasant lift in the 10kHz area. However, as you turn the control through cardioid and towards figure-8, the 10kHz emphasis is dialled back and instead you get an increasingly prominent boost in the upper midrange, while the bottom end drops away, at least for distant sources. Sensitivity is also pattern-dependent, from 6.5mV/Pa in omni to 10mV/Pa in figure-8.

Finding The Balance

Never having used an original, I wasn't quite sure what to expect when I first powered up the M49V. Would it make all my other mics seem like useless junk in comparison? Or would I have to report, awkwardly, that I was unable to tell the difference between an £8k mic and something costing a tenth of that? Slightly to my relief, the answer is 'neither'.

If you're expecting a mic that will boldly elbow aside the rest and make every source sound like it's on steroids,

■ The new M49V employs a K49 capsule and an unnamed subminiature valve that Neumann say exceeds the performance of the Telefunken AC701 used in most original M49s.

the M49V isn't it. But, in a sense, that's its strength. At least in cardioid, it doesn't have the attention-grabbing, forward quality of other Neumann designs such as the U47, U67 and U87, with their pushed midrange and rock & roll excitement. Nor does it have the seductive, airy sparkle of a good C12-style microphone. In fact, on first listen, you could be forgiven for thinking the sound of the M49V quite plain and understated.

But the more you listen back to the recordings you've made with it, the more you appreciate it. I tested it side-by-side with lots of other mics, including U87s and a Neumann M147, which has the same capsule. Often the M49V recording was the less striking or immediate of the two; but I almost always preferred it when the time came to mix. After a while, the qualities of the other mics that sounded exciting on first listen came to seem annoying, whereas the M49V tracks just sounded right without the need for EQ, even on 'difficult' sources such as a strident female voice. It's always smooth, but not soft, and the smoothness never comes at the cost of definition or upper-mid detail. It's perfectly balanced, but it's not clinical or lifeless.

In my experience, most Neumann large-diaphragm mics sound less good in figure-8 mode, and the M49 is no exception. As you get towards the end of the dial, the developing boost in the 5kHz area can make vocals sound pinched

and sibilant. As a result, I tended to use it mainly in cardioid, but I personally wouldn't go for the 'cardioid only' option, because omni and in-between patterns can sound absolutely lovely on the right source.

The £8000 Question

So, would I buy a Neumann M49V? And should you? For most of us, the price makes the question academic, though that's not to say the price is unreasonable. After all, you can pay still more from other manufacturers for a modern copy of the U47 that won't have a genuine Neumann capsule, let alone the correct valve, and the M49 is probably even more versatile than a U47 or U67; short of close-miking drums, there's almost nowhere I wouldn't use it.

The original M49 was bought by broadcasters and working studios. Not many of the former will be interested this time around, and not all the latter will be able to justify the cost. Though it's been a privilege to spend time with the M49V, I can't imagine I'll ever own one myself. But if you are lucky enough to do so, you may well find yourself joining the ranks of those who think microphone design peaked in the 1950s! ■■■

£ €8495 including VAT.
T Sennheiser UK +44 (0)1628 402200
W www.sennheiser.com
W www.neumann.com

FREE eBook - **RECORDING TECHNOLOGY: Basics & Beyond**

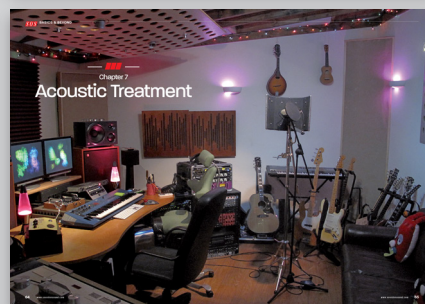
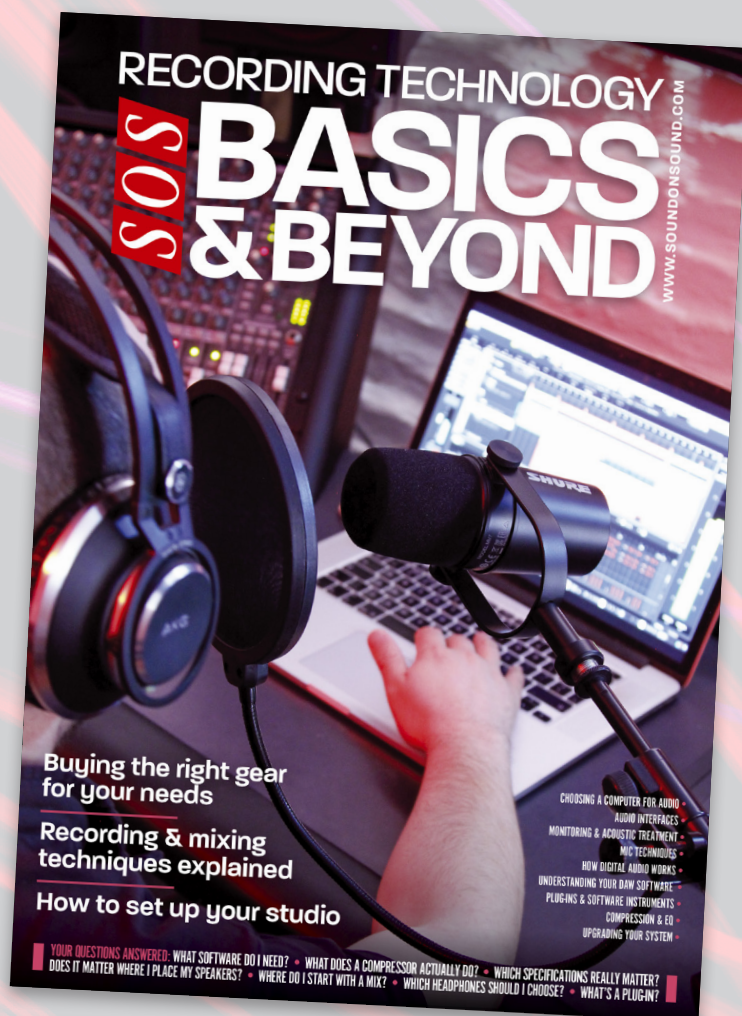
Get your FREE digital publication from Sound On Sound

This FREE illustration-rich eBook is aimed primarily at newcomers to the subject, but will prove equally valuable to anyone struggling with the complexities of today's sophisticated recording technology.

The purpose of this 170-page guide is to introduce readers to the essential components of a modern recording system and to explain the recording process in an easy-to-follow way, demystifying the inevitable jargon, both as it crops up, and with a comprehensive glossary.

Written in the accessible, no-nonsense style of the Sound On Sound team of authors and editors, **Recording Technology: Basics & Beyond** covers:

- What to buy
- Studio setup
- Computers for audio
- Audio interfaces
- Monitoring
- Acoustic treatment
- Mic techniques
- How digital audio works
- Understanding your DAW software
- Upgrading your system
- Software instruments
- Wiring your studio
- Plug-ins
- Recording audio
- Understanding MIDI
- Recording vocals
- Mixing
- Compressors
- Equalisation
- Mastering
- Glossary



Don't miss out! Sign up and **share the link** with friends and colleagues on social media.

<https://sosm.ag/recording-ebook>



Mix with the best!



"Besides the excellent interviews and fascinating, in-depth recording and mixing articles, I can always depend on Sound On Sound for complete, unbiased reviews of the latest pro-audio gear."

Bob Clearmountain, engineer, producer and mixer, Grammy Award winner (Bruce Springsteen, The Rolling Stones, Paul McCartney, INXS)



"As a professional I admire Sound On Sound as one of the most trusted and credible sources of inspiration and information."

Jack Joseph Puig, mixer, producer, Grammy Award winner (Rolling Stones, U2, Mary J Blige, Black Eyed Peas)

SOUND ON SOUND

The World's Best Recording Technology Magazine



This article was originally published in Sound On Sound magazine, **November 2022 edition**



follow us on Twitter



find us on Facebook



go to the SOS YouTube channel



visit the SOS forum

Subscribe and Save Money!

Visit our subscriptions page at www.soundonsound.com/subscribe for more information on the Sound On Sound App go to: www.soundonsound.com/app

Sound On Sound, Allia Business Centre, King's Hedges Road, Cambridge, CB4 2HY, United Kingdom

Email: subscribe@soundonsound.com Tel: +44 (0)1223 851658

All contents copyright © SOS Publications Group and/or its licensors, 1985-2022. All rights reserved.

The contents of this article are subject to worldwide copyright protection and reproduction in whole or part, whether mechanical or electronic, is expressly forbidden without the prior written consent of the Publishers. Great care has been taken to ensure accuracy in the preparation of this article but neither Sound On Sound Limited nor the publishers can be held responsible for its contents. The views expressed are those of the contributors and not necessarily those of the publishers.