

Wagner U47 Valve

The Holy Grail of microphones has been painstakingly recreated here in Australia with amazing results. Andy Stewart has a cray-ving.

When it comes to capturing a performance, most people know by now that choosing the right microphone is crucial to a successful recording. If you don't get it right at the source, everything down the chain from there is blah blah blah blah blah. You know the story... This pearl of wisdom runs second only to obvious priorities like having a decent subject in front of the mic, and knowing which side *is* the front of the mic. So why then are most of us recording with 'good' mics instead of 'great' ones? What stops us from getting the microphone of our dreams? Is it money? Are microphones like crayfish: when you look at their price per kilo you baulk and come home with mullet

valve 47 because it's arguably one of the best sounding, most iconic microphones ever made. But I've never been too keen on spending a small fortune on a mic that was by all accounts, virtually unserviceable: it's a particularly galling experience having to leave your best mic in the drawer because it's 'playing up'... again.

So when I finally got to use the Wagner U47 in a recent session, I was sold almost immediately. I went home and calculated that if I saved 10 bucks a week I could own the mic outright by sometime during 2017.

Gunter Wagner, for those of you unacquainted with the man himself, is one of the most knowledgeable and enthusiastic tube microphone experts on planet earth. Gunter knows more about the classic Neumanns than most of its current employees combined, and this knowledge has been poured into a masterful reproduction of the legendary valve U47. It is a purist's pursuit, and if there is another person in the world better acquainted with what's involved in making such a reproduction, I would love to meet them.

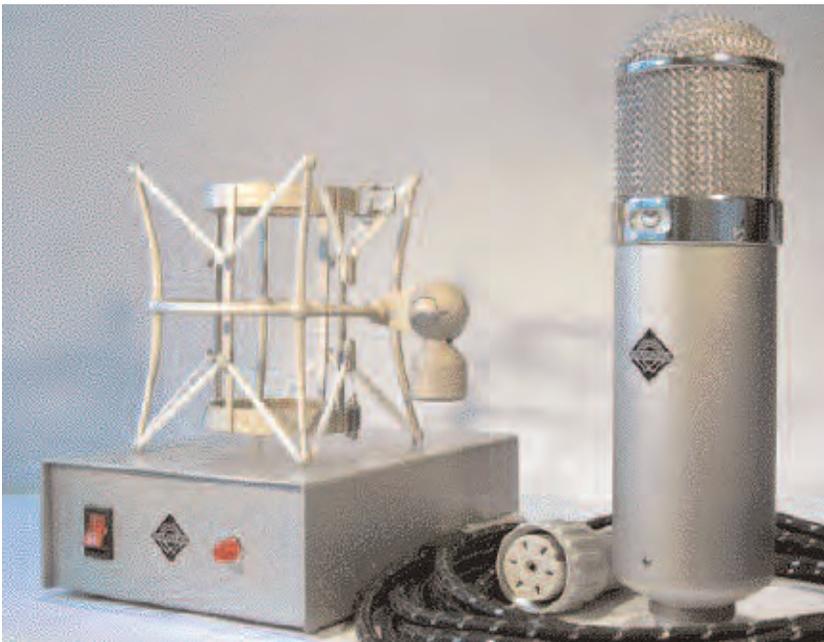
The Wagner U47 – as it's known – is a combination of original and remanufactured components, all hand-assembled by Gunter with a rare sense of artistry. The mic uses a re-manufactured M7 capsule, a Telefunken steel-tube and a new output transformer crafted using original lamination material, all built with a forensic precision that would make a master forger envious. Above and beyond the parts themselves, Gunter (as many Neumann owners will attest) is a master at 'tuning' mics using a combination of complex diagnostic test equipment, a wealth of experience and a great set of ears. It is this combination of attributes that has produced a mic that not only looks like an original U47, but more critically, sounds like one.

The sound of this mic stuns most listeners to silence. When I first used the microphone I was immediately struck (in my headphones) by the intimacy of its vocal reproduction. Gunter's U47 delivers an incredible combination of clarity and sweetness which sets it apart from any other mic I have used or tested. In fact, I don't think I've ever sung into a better mic, and I've sung into quite a few. Somehow that old chestnut that 'mics are good on some voices and bad on others' seemed like a philosophy under siege. I simply cannot imagine a voice sounding bad through this mic, apart from perhaps a real screamer. One of the 'limitations' of the original U47 design is its relative lack of headroom by today's standards. This causes the mic's colouration to intensify under extreme SPL; a characteristic lauded by some and criticised by others. Regardless, for quieter, more

because crays are just too bloody expensive? Well, the point is, mics don't get eaten or go off, they last for your recording lifetime... provided they're 'great'. I can't think of anything else in a studio, off hand, that can make such a claim. The walls? Nup. The recorders? Nup. The converters? Yeah right...

A few years ago I made the decision to bite the bullet and start collecting the best mics in the world. I was determined that in the future, I wasn't going to record myself or anyone else with sub standard equipment.

These days I own a small handful of classics: Neumann's U67 and U47FET, AKG C12As and so on and so forth. And the more I've used these great mics, the more I've learnt that having them makes all the difference. Like so many people, I have always wanted a



intimate voices, this mic is without peer. And physically, you could pull a Wagner U47 out of the proverbial 'hat full of 47s' and never spot the difference. Down to the screw and nut, Gunter's mic looks as original, if not more so, than many 'originals' I've seen.

But three perspectives are better than one, so instead of more opinion from me, here are some thoughts from Phil Punch and Steve Francis. Phil owns and runs Electric Avenue in Annandale, Sydney, and possesses at least one of virtually every piece of vintage gear known to man including an original U47. Steve is already a proud owner of a Wagner U47 and runs Nikinali Studio in Walsh Bay, Sydney. And for people interested in some more hard facts behind the reproduction, Gunter himself has given us a brief run down on the making (or is it re-making?) of this 'time capsule'.

From the man who has/wants everything... Phil Punch

I own an original Neumann U47 made in 1954. The capsule has been re-diaphragmed to original Neumann specs and I love it... but, to be honest, I don't think it sounds as good as the Wagner U47 made in 2003!

This is a beautiful remake of the classic Neumann U47. There's no doubt that Neumann got it right when they presented the recording and broadcast industry with the original U47 in the late 1940s. It changed the sound of popular music forever, and along with the tape recorder and microgroove vinyl, ushered in the first golden age of high fidelity in the 1950s.

If you listen to a good vinyl pressing or CD re-issue of a Nat King Cole, Peggy Lee or Frank Sinatra Capitol recording, or for that matter a Beatles or Elvis recording from the early '60s, it's easy to hear why the U47 is still revered today.

Getting hold of a good U47 these days, however, can be a frustrating and expensive experience! Original U47s are now very old (and often unreliable)



The insides of Gunter's U47 (on the left) shows a remarkable likeness to an original Neumann. Many 'look-alikes' fail to impress on closer inspection of the internal electronics. The Wagner U47, however, is virtually identical to an original U47 shown on the right.

microphones. The capsules all sound different – some good, some not so good – and even when these mics were new the capsule consistency was far from perfect. Furthermore, the Telefunken VF14 valve used by Neumann is now virtually impossible to find, and when you *do* find one there's never any guarantee that it will sound any good anyway. Ever tried swapping VF14s in your U47? Four different valves will produce four different sounding microphones...

I've often wished I could turn the clock back to, say, 1956 and buy a brand new U47 with a perfect M7 capsule and brand new Telefunken valve. Miraculously, thanks to Gunter Wagner, this is now possible! The microphone looks superb and is virtually indistinguishable from an original Neumann. Initially I tried the mic with my brother Mark. He is a very experienced studio singer and I've recorded him with countless mics over the years.

I immediately felt that this was the best sound I'd ever had on his voice. With a good preamp (I used a gain modified TAB V72 and Neve 1272) this microphone has an uncanny ability to make you feel that there's nothing between you and the singer! The tonal balance is fantastic – just the right amount of top and upper midrange presence coupled with mid/bass weight (together with a really workable proximity effect).

U47s are far from neutral, but if everything is working right, they have a magical quality that really places a singer

in the spotlight. The Wagner U47 certainly does this.

I next tried the mic with Elana Stone, a jazz singer with a lovely delicate, yet quite resonant, voice. Once again I was thrilled by the sound of the Wagner U47 and, again, there was a strong sensation of there being nothing between you and the singer. In fact, Shawn Walend, the piano player on the session, commented at the time on the beautiful vocal sound, unaware that I was trying a new microphone. But all good things must pass, and reluctantly I had to return the mic to Gunter after the session.

An owner's perspective... Steve Francis

How is that I came to buy a Wagner U47? Well, about six months ago I was debating whether or not to upgrade my ProTools TDM system to a new HD rig, because, like everyone else I know in this business, I'm always trying to make things sound just that little bit better.

I'm an independent producer/engineer/composer with my own studio, a nice collection of guitars and amps and some cool – and not so cool – outboard gear. I record and mix most of my own projects and also work for independent record labels, so all of my work is done in-house due to the perennial constraints of the 'No Budget Law'.

To help justify the expenditure to myself I decided to ask some clients: "Great! Will it cost *me* any more?", some other engineers that use my studio: "Yeah, cool! Will it

Gunter Wagner on the Reconstruction

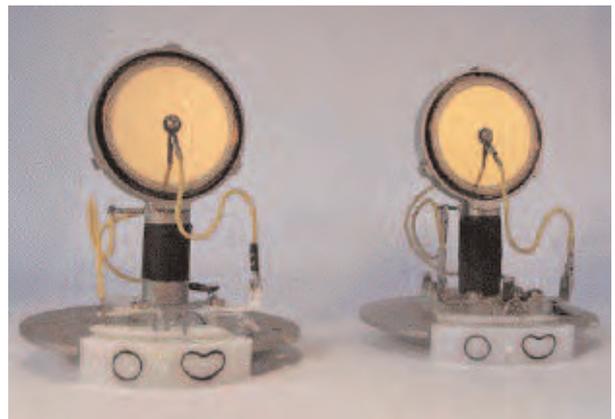
I always thought that, of all the old mics in the world, the U47 was the one most deserving of a place in recording history in the 21st century. The 47 is probably the most widely used and universally loved vocal mic ever built. Unfortunately, most U47s are now over 50 years old and in a sad state of disrepair. Some still sound great but most have lost their magic completely. To manufacture this mic again – beyond outward appearances – I had to make sure that such an undertaking didn't produce a 'better' microphone (in technical terms), and that all the inherent 'limitations' of the original were embraced without question. Moreover I didn't want to make yet another 'look-alike'. The aim was to build a microphone with 100 percent of the look, feel and sonic quality of the U47, by individually matching the capsule, tube and output transformer together, in combination with authentic U47 body-mechanics.

When the U47 was introduced in 1949, its success was more of a 'lucky shot' than a planned concept. Technically speaking, the U47 has always been far from perfect: the frequency response is not linear at all and the Telefunken steel-tube in combination with the capsule and output transformer produces significant colouration.

The problem now is that after 50 years or more, U47s all sound quite different. The tubes have become noisy or been replaced with non selected versions (or odd replacements), the old unregulated power supplies are often on their last legs and the original capsules are invariably worn or damaged.

Moreover, many U47s no longer even house the original M7 capsule that they shipped with. Neumann/Berlin stopped producing the M7 after 1969 and generally replaced broken capsules with a newer, more modern type: the K47. After that time the only available M7 was the one made by MTG Gefell. Although their M7 looks very similar, the Gefell M7 is quite different to the one made by Neumann/Berlin for the U47.

The most obvious problem with attempting to 're-manufacture' this microphone was this total absence of M7 capsules – fundamental to the sound of this classic mic. Given that there were no original M7s on the planet I decided to manufacture them from scratch. After servicing and restoring Neumann tube microphones for 25 years (first in Munich, Germany, and then, from 1985, in Sydney) all the while collecting information, blueprints and equipment, the important change came when I had the chance to contract a former Neumann engineer who had previously worked in their capsule department for decades. With his enthusi-



Which one's which? The complete capsule assembly on the left is from a Wagner U47 and the one on the right is from an original Neumann U47.

astic help I started re-manufacturing the original M7 capsule in 1992.

The capsules are made according to the original blueprints, even using the original brass materials for the backplate. This process has always been a labour of love, and most of the capsules we've manufactured in the last 12 years have been used internationally to 'back-convert' K47 installs. If you see a vintage U47 with an M7 capsule in good shape, the chances are very high that this is actually one of our re-manufactured M7 capsules... in my new U47 reissue it's a certainty.

cost *me* anymore?”, and last but not least, my trusted mastering guy. He was less excited than the others about the plan and argued that my records sounded good already. He was less than convinced that another digital upgrade would satisfy my nagging doubt. What he could never understand – knowing my gear list quite well – was why I didn’t own a great vocal mic. Perhaps my years of whining about getting vocals to sit in the mix properly had prompted this outburst, but he had a point.

So after much research and a lot of advice, I decided to postpone the digital upgrade and buy one of the best microphones I could afford; a classic old valve U47. Well, not exactly... I bought the new Wagner U47, which is a ‘screw for screw’ remake of the original Neumann classic.

And guess what? My mastering guy was right. I’d always known that mics were crucially important, but somehow I’d never been able to justify the expense of a ‘classic’ condenser. I’d gone close: sure I don’t have a collection like that of a large studio, but I do own a Neumann U89, a couple of AKGs, some Oktavas and a Rode. But the difference I noticed when I started using my Wagner U47 was pretty stunning. On vocals it’s warm and bright with an amazing midrange – all at the same time. In the mix you need a lot less EQ (always a welcome change) and compression to make it ‘sit’... and a bit of top-end boost adds that air I’ve always dreamed about. I love it.

I’ve tried using the 47 on basically everything since I

bought it and have rarely needed to pull up a different mic to get the sound I’m after. I’m having fun miking acoustic guitars from a nice distance to get some space around them. The microphone makes bass amps sound fatter than ever, and as a mono drum room mic you just want to push the fader up and up. It sounds good through all my different preamps and properly reveals the differences between them.

So am I happy with my decision to buy one? You betcha – and let’s face it, probably the most important part of your mix is the vocal so it makes sense to give that priority. It seems the reputation of the U47 being the ultimate vocal/instrument mic may well be justified. Oh, and there is an added bonus... the Wagner U47 looks like God’s own microphone and will impress the life out of anyone who sees it, even before you turn it on.



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