PRO AUDIO REVIEW

EQUIPMENT REVIEW
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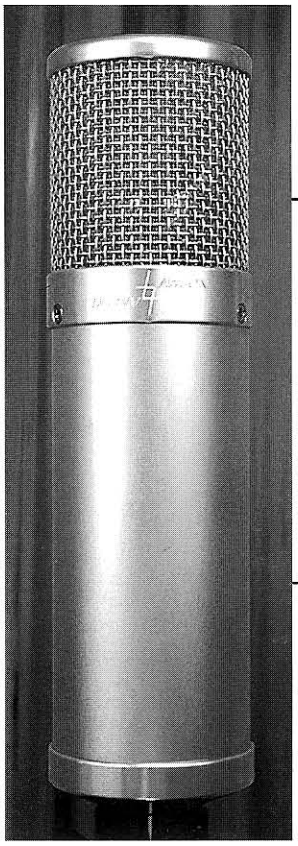
LAWSON L-47 TUBE CONDENSER MICROPHONE

BY DR. FREDERICK J. BASHOUR

I cannot believe I like this microphone as much as I do. I have long subscribed to the view that there was something special, almost magical, about the old Neumann 47s and 49s, but in the course of reviewing this new, relatively inexpensive Lawson tube microphone, I have learned that microphone design involves attention to details. And Gene Lawson seems to have gotten all the details right with his L-47.

I own 17 vintage Neumann vacuum tube microphones, including two M49s and one U47. As mentioned in past reviews, most of my Neumanns have had their capsules rebuilt by Stephen Paul Audio, in Sherman Oaks, Calif.; some have also had amplifier rebuilds by the Stephen Paul people or by David Manley. I am quite attached to my collection of three dozen Neumann, AKG, and Schoeps tube microphones, not only because I have spent so much money on them, but also because they sound really wonderful. I think of them as the paints I use on the musical canvases I create called "recordings."



Features

Gene Lawson bills his L-47 microphone as a combination of vintage circuitry and start-of-the-art technology. Basically, he manufactures a reproduction of the Neumann M7 capsule (the earlier one of two used in the U47 and M49 microphones — the later one was called the KK-47), and couples it with an amplifier built around a 6072 medium mu triode tube, fancy output capacitor, and Reichenbach Engineering transformer.

The shock-mounted capsule's backplates are machined from solid brass, and then hand-lapped in Lawson's own shop. He uses a low-mass 3-micron, 1" diaphragm (the originals were more than 6 microns thick), sputtered with 24-karat gold.

The microphone's body is also constructed of brass, and then plated with 24-karat gold. Basically, it looks like a very bright, shiny, gold-plated Neumann U 47.

The L-47 comes complete with a sturdy-looking power supply, said to be electronically filtered and fully regulated, a 30' Mogami cable with Neutrik connectors, and a watertight, shock-proof Pelican case. The power supply is 8" x 5.5" x 2", and contains a power switch, IEC AC connector, a switchable -12dB pad and a continuously variable pattern control for the microphone.

AT-A-GLANCE

Applications: Recording studio, project studio.
Key Features: 6072A vacuum tube, M7 capsule reproduction, 3-micron gold sputtered diaphragm, brass body plated with 24-karat gold.
Price: $1,695 (cardioid only); $1,995 (continuously variable patterns)

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In use

The Lawson L-47 microphone was compared with my own Stephen Paul-modified Neumann U47 and M49s. In the case of my 47, the test was particularly appropriate since that microphone has been modified with a 3-micron diaphragm as well as a new amplifier featuring a 5751 high mu triode tube, a fancy output capacitor, and a Jensen transformer. Sounds kind of familiar, doesn't it? My M49s (actually M249s) have also had new 3-micron diaphragms fitted, but their electronics are basically stock, with the original Telefunken AC-701K tubes and the large Neumann output transformers.

Since the 47 is known primarily as a male vocal microphone, while the 49 is more often used on female vocals, I first tested the Lawson microphone with solo singers including myself.

For my test, I sang into both microphones alternatively, first listening live on my Stax SRX Mk. III PRO electrostatic headphones, and then as recorded and then played back from my Studer Dyaxis II workstation. I first sang along with the fantastic new Natalie Cole CD entitled "Stardust" — 19 standards produced by Phil Ramone, David Foster and George Duke. Great songs, great performances, and great sound.

Now I know the sound of my own voice pretty intimately on this particular 47, since I usually use it as the talkback microphone between the control room and my studio and the upstairs bedrooms. While it certainly does not help me to sound like Nat King Cole, it definitely makes my voice sound larger than life. And as I also noticed when I recorded my own jazz singing, backed by keyboard improvisations on my Kurzweil 2500, the Neumann 47's big "magical" quality actually inspired me to sing much better than I thought I could.

In contrast, the L-47 did not seem quite as large. It did sound a bit cleaner and smoother though, as if it did not have quite as much of the same broad 2 kHz–7 kHz rise and 10 kHz peak that an authentic Neumann 47 has. My first impression was that it sounded more like a 49. Listening live through the Stax headphones, it did not seem to have quite as much of the "magic" that my own 47 has and, although it was definitely a righteous vocal sound, I was more inspired by the 47. The L-47 was smoother and more open, but my Stephen Paul U47, with its greater degree of proximity effect and its peakier high end, was more "high fidelity." But the Neumann microphone was a lot more money than the Lawson's price.

Noisewise, the two microphones were slightly different, but in the same ballpark overall. The hiss was lower in pitch with the Neumann, and much brighter with the Lawson. The tiny amount of hum was an octave higher with the Lawson. "Ps" popped more with the Neumann and, in general, although the low ends of the two microphones sounded quite similar, the Lawson appeared to roll off the extreme sub-sonics

(below 20 Hz) so that the overall sound down there was cleaner. Its polarity was reversed relative to my 47 and my 49s.

I then convinced the English nanny of my two daughters, who happens to be a wonderful vocalist, to stand out in the studio — between one of my Stephen Paul 3-micron Neumann M 249s and the L-47 — and sing lullabies. The results were quite an ear-opener. The Lawson microphone definitely sounded better than my 249 — brighter, cleaner, more focused, and more present.

The results of the comparison of the Lawson L-47 to my Neumann M 249 were the exact opposite of its comparison with my U47. In this case, it was the Lawson that sounded brighter and more "high fidelity." If one could imagine a continuum of increasing brightness and presence between the 49 and the 47, the Lawson L-47 would fit smack dab in the middle. This conclusion is quite interesting to me since, as I said, my 47 and 249s share the exact same capsules. It is well known that the U 47 is the brighter microphone of the pair because the 49's grill geometry has a warming and smoothing influence on that microphone's sonic signature. But since the Lawson L-47's case and head grill appear to be a faithful copy of the Neumann U 47's, I was surprised that Lawson was able to voice the new microphone as flat as he did. The interrelationship between many factors, including head grill geometry and diaphragm tension, obviously has an effect on the sound.

Speaking of diaphragm tension, I would be remiss if I did not point out that during the period that the Lawson microphone was in my studio (but before I had given it its listening tests), Gene Lawson sent me a second head and instructed me to swap out the one which came with the microphone (dated in August, '96) with this new one (dated in December.) He said that customer feedback had convinced him to lower the diaphragm tension to increase the proximity effect (low frequency rises when used close up), and that all L-47s would now be sold with this "new, improved" capsule. I did try out the original head for a short time, but tend to agree with Lawson that the newer one sounds better. Unfortunately, it was the first capsule supplied to **PAR** which was used for the bench test.

I also tried the L-47 on acoustic instruments — piano and strings — and concluded that it would actually be suitable for a classical tracking date. And, in this application, it also outperformed my Neumann M 249s in overall sound quality and transparency. Basically, it can be used wherever I would employ either my U47 or my pair of M 249s.

Summary

All in all, the Lawson L-47 performance is definitely "in the family" of the Neumann U 47 and M49 microphones — especially in their tweaked versions with low-mass diaphragms. In fact, and I am sure this will sound like heresy — the Lawson L-47 sounds a lot more like a real Neumann M49 than does that new Neumann M 149 hybrid tube/solid state microphone I reviewed a few issues ago (**PAR**, July/August, 1996). Go figure.

So the trenchant question now is: how does this new sub-$2,000 microphone really stack up against my high-buck Stephen Paul-modified Neumann U 47? The real Neumann U 47 is still a very special microphone. For those who can afford a vintage preowned one in the first place (and who then want to shell out at least an additional $3,000 for the capsule and amplifier modifications), there is still nothing that will touch it. The largeness and "magic" are real, and have not yet been duplicated completely.

But the Lawson L-47 gets really close and also offers a microphone which, at the same time, actually improves upon many of the qualities of the Neumann U 47's first cousin, the M 49. If for some reason I were forced to sell off all my three-dozen tweaked-out vintage vacuum tube microphones, and were allowed to purchase only one pair of stock tube microphones to live with, the Lawson L-47 would be my choice. Now if only I could get used to the color ...

In my opinion this is the microphone of choice for the project studio owner who wants to buy only one microphone. And at the given asking price, it is the biggest bargain in microphones today.

Dr. Fred Bashour holds a Yale Ph.D. in Music Theory, and is a musician and classical music producer/engineer who, during the past 25 years, has received credits on hundreds of recordings released on over a dozen labels. He is also a contributor to ***Pro Audio Review*** *and* ***Early Music America.***

Product Points

LAWSON L-47 TUBE CONDENSER MICROPHONE

PLUS

+Price
+Performance
+Versatility

MINUS

–Appearance may not suit everyone's taste

THE SCORE

A versatile, high-quality microphone that comes in at a great price.

On The Bench

LAWSON L-47MP TUBE CONDENSER MICROPHONE

The L-47MP microphone comes with its own power supply. The microphone and power supply are packed in an airtight and watertight Pelican travel case. A special cable is supplied with a 6-pin XLR connector on each end to connect the microphone to the power supply. The power supply has a standard male XLR 3-pin output connector. The polarity test was performed using a reference loudspeaker. The B&K 4133 microphone output is shown for comparison. The L-47MP pulse output, in the omni position, has a positive polarity and verifies the extended response of the L-47MP in this position. The L-47MP is less damped than the B&K 4133. The on-axis (0 degree position) curve is the darkest curve for the omnidirectional and figure-8 (bi-directional) curves for the sake of clarity. The proximity effect curve was made with the L-47MP in the cardioid position.

–E.M. Long