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Royer Labs R-122V Ribbon Microphone

Can it possibly be better than Royer's other ribbon mics? Read and see...

by Russ Long, 01.15.2007

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I didn't know it could be done, but the Ferrari of ribbon mics just got better. Originally developed in 2001, the R-122V was constructed as a benchmark ribbon mic to test the R-122 design against. Now, after four years of development, the R-122V takes the concept of active ribbon microphone technology pioneered by Royer Labs to a new level by incorporating vacuum tube electronics into the same proven transducer system used in the esteemed R-121 and R-122 ribbon microphones. The high operating voltage of the vacuum tube provides a headroom capability far beyond that capable from a standard phantom power supply. In the real world, this translates into a ribbon microphone with an amazing clarity, detail, and sheen.

Features

The beautiful satin nickel finished R-122V (\$2,995) measures 8 1/8 inches long by 1 inch in diameter and it weighs 10.2 ounces. It is optionally available in a matte black chrome finish. The R-122V is an electrodynamic pressure gradient microphone and, like most ribbon microphones, it has a figure 8 polar pattern. Its frequency response is 30 Hz to 15 kHz ±3 dB and it has a sensitivity of -37 dB. The R-122V has a maximum SPL greater than 135 dB SPL @ 20 Hz.

The R-122V's generating element is a 1.5-inch x 3/16-inch x 2.5-micron aluminum ribbon, which is housed along with a high-grade neodymium magnet assembly and a stainless steel internal baffle and dampener in Royer's patented Flux-Frame. Because of the way the ribbon is mounted in the Flux-Frame, the rear side of the mic records slightly brighter when three feet or closer to sound source, an important characteristic to remember when weighing sonic options.

The head amplifier of the Royer R-122V consists of a low-noise, military grade, triode-connected 5840 vacuum tube. The R-122V offers an outstanding transient response and the drive capabilities that can only be provided by a vacuum tube head amplifier. The mic's tube electronics provide high output capability, optimal impedance to the ribbon element, and low output impedance (200 ohms). The triode-configured cathode follower circuitry enables the mic to drive long cable runs without any high-frequency loss or sonic degradation. This capability is further enhanced by the R-122V's dedicated power supply that provides ample current to the vacuum tube electronics. Induced noise is virtually eliminated by the microphone's fully balanced output that is electrically isolated with a special-purpose Jensen output transformer.

The R-122V includes a camera-style brief case that carries the mic (packed into its wooden box), the 3.5-pound power supply, cabling, and shockmount. Royer has a tradition of taking care of their customers and the R-122V is no exception. With exception to the tube (10 years) and the ribbon element (one year), the mic has a lifetime warranty to the original owner.

In Use

As a long-time, extremely satisfied user of both the R-121 and the R-122, I was anxious to find out exactly what you get when you spend an extra grand on a Royer Labs ribbon mic. The answer is both subtle and significant

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Like the 122, the 122V has a faster transient response, which gives the sense of a more open high-end response. Compared to the R-121 and the R-122, the R-122V has an improved bottom-end. Low frequencies are tighter, clearer and more focused. This is a slight improvement over the R-122 and a significant one over the 121.

FAST FACTS



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Royer Labs R-122V Ribbon Microphone

Applications

Studio, broadcast, post production

Key Features

Figure 8 pattern; vacuum tube electronics; ships with carrying case, power supply, cable

Price

\$2,995

Contact

Royer Labs

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Where the R-122V really excels is in its midrange depth and detail. It's interesting because, in one way, the mic sounds identical to its phantom-powered counterpart (the 122) but, in another way, it's totally different. I'd describe it almost like the difference between a 16-bit, 44.1 kHz recording compared to a 24-bit, 88.2 kHz recording.

The R-122V also has an enormous amount of headroom, making it useful on extremely loud applications. Phantom powered microphones are limited with regard to maximum headroom as a result of the phantom power source. With the vacuum tube design, greater headroom is achievable because the voltage source is supplied by a dedicated power supply. The vacuum tube operates with a supply voltage greater than twice that of a phantom powered microphone. The vacuum tube also provides the extremely high input impedance required for the specialized ribbon matching transformer and offers transient response superior to any solid state component.

The first thing I put the R-122V to work on was electric guitar. My initial plan was to run the signal through the console, which happened to be an API Legacy. The signal was still on the hot side even after padding the mic preamp, so I decided to give it a listen with no mic preamp at all — it sounded amazing. I ended up coming out of the mic straight into an 1176 and then straight into Pro Tools with no mic preamp at all — it sounded astounding. The bottom end was tight and punchy, the mids were present and dynamic and the top end sparkled.

During the same tracking session, I put a second R-122V about five feet in front of the drum kit and about four feet off the ground pointed at the snare drum and I again had wonderful results. This time I used the API mic preamp (the kit wasn't loud enough to get by without a preamp) and a Distressor EL-8 to squash the signal to death. This over the top thick full mono room sound coupled perfectly with my stereo room sound that I captured with a pair of Coles 4038 ribbon mics.

On another session, this time at my studio, I used the R-122Vs as overheads through two John Hardy M-1 mic preamps and had great results. In this case I used my GML 8200 EQ to add some sparkle on the top end and the result was wonderful. The kit sound was natural and full. The mic worked equally well along with a Gordon mic pre to capture tambourine, shaker and finger cymbals.

I found that the R-122Vs also worked wonderfully on acoustic piano. To achieve a slight top-end boost, I used the back side of the mics instead of the front. I placed the mics each about ten inches from the sound board — one over the bass strings and the other over the high strings — and ended up with a smooth, warm sound with a full and rich bass.

While I've always been a fan of the sound of ribbon mics on vocals, I don't think there has ever been a ribbon mic that I would purchase solely for vocals. That has changed with the R-122V. I had wonderful results using this microphone on both male and female vocals. The mic has the ability to capture high frequencies without any harshness or distortion and it especially shines on female vocals.

One of the characteristics of ribbon mics that makes them so usable is their ability to take EQ. I found this to be equally true with the R-122V. While recording an extremely dull acoustic guitar (with the element somewhat off-axis to dampen the lower frequencies) I boosted the higher frequencies to the point that the microphone had a top-end sonic character beyond that of any condenser I've ever used, yet it still sounded completely natural. The R-122V's inherently low self-noise, lack of off-axis coloration, and smooth response characteristics allow it to take EQ extremely well.

I had wonderful results using the mic to record Tracy Silverman's six-string violin (check out John Adams: The Dharma at Big Sur to hear Tracy play this amazing instrument). The instrument sounded smooth and warm and required no equalization at all.

Like all tube mics the R-122V needs time to warm up. I found that I would attain the best results when powering on the mic about two hours before I needed to begin recording.

Summary

The R-122V's smooth frequency response characteristics and ability to capture detail make it a perfect microphone for practically any instrument and its gentle low-frequency proximity effect make it a great mic choice for vocalists. My initial thought was there is no way a ribbon mic can be worth \$2,995, but to hear it is to believe it. The R-122V provides what may just be the ultimate in ribbon microphone performance.

Russ Long has done 5.1 DVD mixes for Allison Moorer and Mercy Me and is an in-demand engineer for live sound recordings, having multitracked live performances for Chris Tomlin, Lisa Loeb, Salvador, and Nichole Nordeman.

Royer Labs
818-847-0121
www.royerlabs.com

PRODUCT POINTS

Plus

- Low self-noise
- High SPL capabilities
- Consistent frequency response regardless of distance
- Back and front have different response characteristics
- Warranty

Minus

- Be aware that back and front have different response characteristics

The Score

Royer Labs has topped itself once again with an unbelievably great-sounding ribbon microphone.



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