

Royer R-122

A Classic Ribbon Mic Heats Up

By David Darlington

Ribbon microphones have often been a first choice for discerning engineers who hope to capture a warm clear and accurate representation of acoustic instruments. The beautiful jazz records of the 40's and 50's and the fat sounding rock classics of the 60's and 70's owe a large part of their sound to the ribbon mics used on the sessions. I have stated previously how the folks at Royer Labs have brought ribbon mic technology into the 21st century with their wonderful R-121 ribbon mic ("A Mic For All Season", APR/01). I said in my review of that unit that it would be my "desert island mic" and I meant it. I still use R-121s on every session and continue to revel in the sound they impart to my recordings. But the Royer engineers didn't simply rest on their laurels. In addition to offering a stereo ribbon microphone called the SF-12, they went back to the drawing board to invent the phantom powered R-122, the next step in ribbon mic technology.

The main issue that Royer tackled in the design process was that a fairly high- gain mic preamp has always been needed to use ribbon mics effectively. Until now, this was just a fact of life when dealing with ribbons. Because of ribbon mics' low-level input signals, engineers have to really crank a mic pre to get decent level to the recorder. But for many home studio owners, the necessary high-end mic preamps are financially out of reach, making ribbon mics "gear non grata" due to the low output level.

The R-122 has a totally redesigned phantom-powered amplifier circuit giving it a full 15 db more sensitivity than its predecessor, nearly equaling that of most condenser mics. The new amplifier also features a proprietary new technology from Royer called Z-match, which sends a perfect impedance to the ribbon element at all times. This means that mic pre's of almost any quality will match perfectly with the ribbon element, resulting in strong clear output in any application.

Well, the R-122 sounded good on paper, so when I got my test pair delivered I was anxious to hear what I'd been reading about. Once again, each mic came nestled in a satin-padded wooden jewel case, this time protected by a red drawstring sock. (Can I get some of those for my R-

121s, guys? They are totally cool.) The R-122 looks like an elongated version of its older brother the R-121, the extra length needed to accommodate the amp circuit. The distinctive green Royer trademark sits high on the body near the side address grille. Seated in their optional suspension shock mounts this pair of mics looked awesome! (While the mics come with standard mic clips, but I recommend the optional \$72.00 shocks.)

Since we engineers are indoctrinated as toddlers that phantom power can ruin the sensitive ribbon element, it was very hard for me at first to engage the phantom-power button on the mic-pre, but I held my breath and powered up the 48 volts. As advertised, the R-122 gave considerable level at the same gain settings I usually use for a large diaphragm condenser mic.

My first test was a horn section recording for a TV score, so right away I was able to try out a wide dynamic range of source material. From soft tension chords to blazing fight scene rips, the R-122 sounded every bit as detailed as my R-121 and in some ways even out performed its sibling. There is definitely an improved clarity in the upper midrange that I attribute to the impedance matching circuit. (A happier ribbon element translates to a clearer sound.) The bottom end seemed a bit tighter than the R-121s, while still maintaining a rich full-bodied feeling. Due to the higher output, I also sensed that my mic pre didn't have to work so hard, allowing the tone to be open and not forced.

Later in the week I recorded a full day of percussion overdubs with the same subjective results. Royer ribbons really excel at percussion recording, imparting an accurate image and warm full-range frequency response. From low congas and djembes to silky triangles and windchimes, the R-122s made me feel as if I was right in the room with the instrumentalist. I got tight punchy bottom end and open airy top on every instrument. On another session, miking the electric guitar amp was a snap; I just placed the R-122 a bit further out than my other dynamic type mic. The R-122 was "fatter" than my dynamic could ever hope to be, yet was punchy in the mids and clear and spacious on top. I got a truly great guitar sound that sat perfectly in the mix.

Since I was curious about Royer's assertion that any mic pre would sound good and give sufficient level with the R-122, I recorded some guitar through every pre I had on hand. I must agree with the engineers at Royer that Z-match feature does allow the mic to match well with virtually any mic pre. I got great sound through Neves and Avalons as well as Midiman's inexpensive DMP3 and the internal Yamaha O2/R console pre's. With the R-122, the choice of preamp can be a matter of taste and not necessity.

I think every studio should have a complement of ribbon mics around and there is no better choice than the R-122. Congratulations to the team at Royer for improving on one of the world's great microphones. I can't wait to see what they'll do next.

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