



BY MARTIN KLINGMEYER

Smooth as a ribbon?

Ribbon mics are enjoying a renaissance of sorts, due in part to the popularity of the mics from Royer Labs. We reviewed the R-121 in our 7/99 special issue on microphones, but there hasn't been a lot said about Royer's other offering: the SF-12, a stereo ribbon mic based on the 1985 design of Robert Speiden but with some technical improvements like higher output level and toroidal output transformers for enhanced high-frequency performance.

Everyone knows a ribbon mic sounds smooth. The SF-12 is no exception but it definitely breaks some other ribbon mic stereotypes. Use one and you will ask yourself what things really sound like.

Looking it over

The microphone arrived in a handsome jeweler's box. It's attractive in a utilitarian sense, with clean, sleek lines and an unobtrusive black color. Weighing in at 12 oz., it has a substantial feel.

It also comes with special cables, adapters, and a clamp, but they do not fit in the case. The mic clamp is a standard clip type, and a shockmount is available at additional expense.

A special 5-pin XLR-type jack fits into the body of the mic, and another

adapter fans out to two traditional XLR connectors. To avoid left/right confusion, the cables are marked upper and lower to distinguish the two capsules; I wish the capsules had A/B etched on the body and the cables.

The 1.8-micron aluminum ribbon works as an electrodynamic pressure gradient transducer—if you want the technical details, check out Alex Case's description of how ribbon mics work in the 10/99 'Nuts & Bolts.' For intensity stereo, the rib-

bons are arranged in a symmetrical figure-of-eight pattern.

Frequency response is rated at 30 Hz–15 kHz (± 3 dB) with no substantial peaks or dips; one listen will confirm this. The mic is rated to withstand a maximum of 130 dB SPL; to put that into perspective, you could mic a jet engine.

Fearful of damaging this black beauty, I took the time to look over the owner's manual and accompanying material. The documentation is

Royer SF-12 Stereo Ribbon Mic



complete and informative—although the presentation was lacking. Some of the materials were stapled at the edges, and some information was changed with correction fluid. In all fairness, these are handmade microphones, with only a few others being made in the same week, so printing new spec sheets might be out of the question. [Royer reports that a new manual is in preparation.—MM]

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Sounding it out

Ribbon microphones have a reputation for taking the harsh edge off horns and percussion, and my first test of the mic was a drum set. The only other acoustic instrument that has the same kind of frequency range would be piano, but it lacks the different tones. A simple stereo setup immediately points out any sonic colorings.

The first thing I noticed was the very low output of the microphone. Concerned because of the legendary fragility of ribbon microphones—and the fact that the delivery service has kicked some of my other packages across the country—I contacted Royer. Rick Perrotta, the company's president, replied within 24 hours and assured me all was well. Now that's customer service!

The output of the Microphone is specified as being -54 dBm, which is about 20 dBm lower than condenser microphones. You will need a healthy preamp for this microphone.

I set up a click track and played for a minute or two into a pair of Neumann KM 184s in an XY configuration, AKG C414s in XY and Blumlein for comparison. All the mics were run through BLUE. Blueberry cables to an Aphex 107 mic pre, then off to a MOTU 1224 digital audio interface and Sonic Foundry software. Everything was tracked as hot as possible with no compression.

The differences were immediately apparent. The KM184s and the C414s were remarkably similar. If I hadn't known better, I would have thought the drums had been remixed when I listened to the Royer tracks. The high hat and cymbals were back where

they belonged, the snare was fuller, and the kick was more present and thicker than with the condensers.

Overall the kit was more balanced. This is most likely due to the ribbon mic's lack of a presence peak. Note that this isn't implying that the C414s or KM 184s might not beat the Royer in other applications.

The next comparison was an acoustic guitar: the SF-12 compared

to a pair of AKG C414s in an XY figure 8 (Blumlein) setup. Here the differences were less remarkable, but remember that the guitar has a much narrower range and less distinct tones than a drum set.

Overall the SF-12 had more body, and again a slightly less pronounced high end. It also took less time to set up—just aim the badge at the sound source and go.

Next up: a handbell choir. The handbells were set up in a horseshoe pattern, and I placed the microphone about eight feet in the air above the director.

The first thing I noticed had nothing to do with music: the tap, tap, tapping of feet. This microphone seems particularly sensitive to vibrations, so a shockmount would be highly recommended.

Handbells have a very complex sound that's taxing on the whole signal chain. The Royer really shone here. This is an application where another choice of microphones could quickly become bright, harsh, brittle, and percussive. The SF-12 was the hands down choice of the director, who seemed to appreciate its full bottom end and mellow high end. The word 'even' comes to mind.

I also got a chance to use this microphone to record a marching band, on which ribbon mics would be a natural choice—and the Royer did indeed shine through. It immediately

mellowed the brass, snares, and cymbals, which can quickly become harsh. If you find yourself looking for the sound of older Chicago recordings, this would be the place to start.

Analysis

The nice thing about the SF-12 is you are not limited to a coincident figure 8 pattern. It can be turned 45 degrees, and voila—you have an interesting MS setup. The interesting thing is that most MS setups use a cardioid mic for the mid transducer, but unlike a cardioid, this mic's off-axis coloration is negligible. In fact, you are not limited to a stereo setup; there is no reason not to use *half* the microphone on a vocal track.

I would consider placing this microphone on anything, although electric bass or kick are the best candidates in a rock setting. The low end is always thick and solid, never boomy.

While this would not be the multi-purpose all-around first choice mic to put in a locker (because it lacks switchable patterns), I love the sound. This is a microphone that will make you question what "natural sound" is.

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Price: \$2150 (optional shockmount \$72)

More from: Royer Labs, 821 North Ford St., Burbank, CA 91505. 818/760-8472, fax 818/760-8864, www.royerlabs.com.

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