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Royer Labs SF-1 Ribbon-Velocity Studio Microphone By George Petersen

Two years ago, Royer shipped its first ribbon microphone --the R-121--and the mic became an instant hit with studio pros. At the time, Royer began building stereo ribbon mics based on Bob Speiden's SF-12, which has gained favor with classical and scoring engineers. Now Royer debuts the SF-1, a mono version of the SF-12 priced at \$1,075--exactly half the price of the stereo model.

Housed in a 1-inch diameter, 5.6-inch-long cylindrical body and presented in a velvet-lined wood case, the matte black chrome SF-1 is both beautiful and impeccably machined. The side address mic body contains the SF-1's cross-field motor assembly ribbon transducer which includes four Neodymium magnets and Permendur iron pole pieces surrounding a low-mass 1.8-micron aluminum ribbon assembly. The SF-1's iron case forms the magnetic return circuit for the transducer. The polar pattern is a classic figure-8 and the mic handles SPLs of up to 130 dB.

Using the SF-1 requires little more than opening the mic's storage box: There are no pads, rolloff switches, etc. It's plug and go, but with a few caveats. As with other ribbons, the mic is extremely sensitive to air motion and can be damaged by excessive air movements, but other than avoiding blowing into the mic, "cleaning" the ribbon with compressed air or putting the mic inside a kick drum, the SF-1 is rugged and durable--hardly fragile at all. Hey, I don't drop my U87s onto a concrete floor either!

I began testing the SF-1s as a Blumlein (coincident) pair on a 4-string dulcimer track. The mic has a fairly low sensitivity (in the -52 dBv range) and really needs a quiet high-gain preamp, which in my case was the Millennia HV-3. The gain issue is less of a consideration with close-miked or high-SPL sources, but on this dulcimer track, I wanted a more distant ambient sound with the mics about six feet away. Here, the SF-1s did a remarkable job of capturing the sound of the instrument, with plenty of zing, a smooth, unexaggerated top-end and a nice blend of the room color.

On another session, used close up on a clarinet overdub, the result in the control room was exactly what I heard in the studio - rich and woody, and free of any edginess caused by the upper-HF rise common to most studio condenser mics. Interestingly, the SF-1's same lack of an upper presence boost that was great on clarinet led me to choose a condenser when cutting male vocals and where I wanted that extra boost to help the voice cut through a busy rock track. However, I liked the SF-1 on female vocals, where the mic's proximity effect added a nice, warm fullness to the lower notes, with smooth mids and absolutely no brittleness in the highs. Also the SF-1's pattern is extremely consistent from front-to-back and off-axis coloration was nonexistent.

I gave the SF-1 a workout using a trick I heard from Mix contributor Barry Rudolph. For guitar overdubs, I placed two Marshall 4x12 cabinets facing each other with the SF-1 placed between them. As the back side of a figure-8 mic is out-of-phase with the front, I wired one of the Marshall bottoms out-of-phase, and---after a little experimentation with mic-to-cabinet distances - I wound up with a huge guitar sound; high SPLs were not a problem.

Although the SF-1's flat, wide response, fast transient tracking and high-SPL handling would make it a good candidate in such instances, the mic's inherent figure-8 pattern limits its use to tracking drum overheads when no other instruments (loud guitars. etc.) are present. In such cases, the SF-1s - as spaced or coincident overhead pairs - offered a nice balance of cymbals, toms and snare, requiring only a supplemental kick mic.

Due to multiple internal reflections within piano cases, the only way to avoid muddiness and cancellation with figure-8 mics on piano is to remove the lid. This precludes use of the SF-1s for most live or multi-instrument piano sessions, but for (lid-off!) overdubs or solo piano recordings, the SF-1s offered an unhyped, natural reproduction that matched what I heard in the room.

Overall, I loved the SF-1. Its low sensitivity does require a high-quality/high-gain preamp and its wide, flat, uncolored response lacks the in-your-face presence boost common to most studio condensers and even found in Royer's R-121 ribbon model. However, users seeking an accurate, transparent studio mic may want to add one (or more) SF-1s to their mic lockers.

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