

# PRO AUDIO REVIEW

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## ROYER Labs SF-1 Ribbon-Velocity Microphone

BY RUSS LONG

**R**oyer hits its third consecutive home run with the release of the bidirectional SF-1 Ribbon-Velocity Microphone. In just a few short years, the performance of the R-121 and SF-12 has made the Royer name legendary in recording studios. The SF-1 (a mono version of the SF-12) follows in the same line of quality craftsmanship and sound.

### FEATURES

The 9.3-ounce SF-1 (\$1,375) is sonically identical to a single side of Royer's SF-12 stereo ribbon microphone. The microphone's 1.25-inch by .0625 inch by 1.8 micron ribbon is pure (99.99 percent) aluminum. The ribbon transducers utilize Royer's proprietary patent-pending "cross-field" magnet assembly.

This assembly is comprised of four neodymium magnets and two Permendur iron pole pieces. The cross-field design allows for the shortest front-to-rear ribbon path length, resulting in possibly the best high-frequency response and sensitivity ever found in a ribbon-velocity microphone.

The SF-1 can handle approximately 130 dB SPL (5 dB less than the R-121) and it includes a lifetime warranty to the original owner (repair or replace at Royer's option). It is equipped with a stainless steel internal baffle and dampener, which creates the required air pocket around the ribbon element and helps protect the delicate ribbon from wind. Finished in matte-black chrome and encased in a beautiful wood box, the microphone is a work of art.

The SF-1 has an output impedance of 300



ohms at 1 kHz. Royer recommends using a preamplifier with an input impedance of at least 1,500 ohms for the best results. If the preamp's impedance is too low, the microphone will tend to lose low end and body. Like the SF-12, the SF-1 has a frequency response of 30 Hz to 15 kHz (+/-3 dB) and a sensitivity of -52 dBV per Pascal +/- 1 dB.

The microphone's operation manual

includes an in-depth user's guide, technical specifications and a short history of the ribbon microphone. It is well written and useful.

### IN USE

I have owned and loved my Royer SF-12 for more than a year now, so I did not expect any surprises from the mono version. How wrong I was. It is probably something in my head, but the fact that the SF-12 is a stereo mic has frequently kept me from using it to record mono sound sources. Sticking a stereo microphone in a singer's face just never felt right. Now that I have an SF-1, the last two records I have recorded have featured it as the lead vocal microphone for at least 80 percent of the songs.

Like the R-121 and the SF-12, the SF-1 does a wonderful job recording percussion. I had good results recording shaker and tambourine. Congas and djembe also record well with the SF-1. I had great results using a pair of SF-1s to record drum kit overheads and drum

Fast Facts

**Applications:**  
Studio

**Key Features:**  
Ribbon-velocity microphone;  
1.25 x .0625 inches x 1.8  
micron aluminum ribbon

**Price:**  
\$1,375

**Contact:**  
Royer Labs at 818-760-8472  
[www.royerlabs.com](http://www.royerlabs.com); or circle  
Reader Service 12.



kit room ambience. I also had good results using an SF-1 to record the kick drum, placing the microphone about 18 inches from the front head. The only problem I encountered while recording percussion was that some extremely quiet instruments were difficult to record due to the microphone's low output.

I had good results using the SF-1 to record acoustic guitar. Depending on what

the song called for, I used either a single SF-1 for a mono acoustic track or I coupled the SF-1 with an Earthworks SR-77 for stereo acoustic (using the SF-1 on the neck and the SR-77 on the body). Both instances yielded a full, warm acoustic guitar that sat well in the track without taking up too much space.

Like the R-121, the SF-1 beautifully captures the sound of electric guitar. The R-121 has been my electric guitar microphone of choice since its release, so the SF-1 has some heavy shoes to fill. Since receiving the SF-1, I have been miking guitar cabinets with both the SF-1 and an R-121. In every instance they both sounded great.

I found that on electric guitars, I used the R-121 about 70 percent of the time and the SF-1 about 30 percent of the time. Even though the SF-1 can't handle the SPL level of the R-121, I only once encountered a situation where the microphone could not handle the level of a guitar amp.

A pair of SF-1s did a commendable job capturing the sound of my Steinway Grand. The recorded piano sounds full and warm. My Steinway has the tendency to get a bit piercing when played loud in the upper register. The SF-1's eliminated that problem completely. With the Royers, the piano never sounds brittle or harsh yet it retains its top-end and sparkle.

Orchestral instruments are another of the SF-1's strong points. The microphone sounds absolutely stellar on woodwinds, French horn, violin and cello. It also works well on trumpet and trombone. I had wonderful results using the SF-1 along with an AKG 414 to record upright bass (I placed the SF-1 about 8 inches off the bridge and the 414 about half way up the neck).

In four months of constant use, the mic never failed to deliver spectacular sound. I rarely needed additional equalization; when I did, it was just a touch of high-end sparkle. The only time I was not able to achieve a

desired sound was when I was trying to record extremely quiet instruments or voices.

Low output is a characteristic of ribbon microphones. Even though the SF-1's output is low compared to a condenser microphone (the average ribbon microphone is about 20 dB less sensitive than its condenser counterpart), its output is still much higher than the majority of ribbons I have encountered.

## SUMMARY

The Royer SF-1 is a wonderful sounding and reasonably priced microphone. It is one of the most neutral, uncolored microphones I have ever heard. I am sure this microphone (like the R-121 and the SF-12) will become a staple in the recording industry.

## REVIEW SETUP:

Mogami cabling; Daking and Hardy microphone preamplifiers; GML equalization; Tube-Tech, Focusrite & Pendulum compression; iZ Radar 24, Pro Tools recorders; PMC TB1 Monitors with Hafler amplification.

*Russ Long, a Nashville-based producer/engineer, owns The Carport recording studio. He is a regular contributor to Pro Audio Review.*



## Product Points

### ROYER LABS SF-1

#### Plus

- Low noise
- Natural and uncolored sound

#### Minus

- Low output (a preamp with 60-70 dB of gain is required in most circumstances)

#### The Score

Royer hits its third consecutive home run with the release of the SF-1 Ribbon-Velocity Microphone.