

## **Royer Labs SF-12 Stereo Ribbon Mic by Paula Wolak**

First, a confession: I have always loved the smooth, open quality sound characteristic of ribbon microphones. My first exposure to this type of microphone was with the classic RCA 77 and RCA 44 microphones, and for my taste, there was no better mic to handle a horn overdub. The smooth finish they give to the sound of brass instruments is just right for tucking the horn track neatly and easily into a mix. The ribbon mic's reputation in general, and for that application in particular, validated my enthusiasm for them. At times, when a brighter, more brilliant tone was necessary, the ribbons could stand up to Eqing that would give me the sound I needed to hear, while still keeping that warm, musical tone. The problem is that the classic ribbon mics were large and clumsy, and few manufacturers were concentrating on developing new ribbon technology to come up with smaller profile mics.

### **New Design In Ribbon Mics**

Recently, advances in design and manufacture have given back the polished sound of the ribbon microphone with designs that are less bulky and have better operating characteristics. The new ribbon mics that Royer has introduced over the past two and a half years produce the unique ribbon sound in a much smaller, more manageable and user-friendly package.

The principle behind the ribbon microphone is similar to the dynamic coil mic, except that the moving voice coil is replaced by a thin aluminum ribbon element cutting through a very strong magnetic field. Typically, sound is picked up from the front and the rear of the mic with equal sensitivity, which moved the ribbon correspondingly. This pick-up pattern is known as bi-directional, often referred to as 'figure eight', with sounds from the rear producing a signal that is 180 degrees out of phase with sounds picked up from the front. The result is a sound that is typically broad and lush. While the mic's output is a result of sound coming from the front as well as the back of the mic, sounds arriving at the side of the ribbon element reach the front and rear equally, effectively canceling each other out, and therefore producing strong rejection at 90 degrees of axis.

### **Introducing The SF-12**

Royer has doubled the stakes in its stereo ribbon microphone, the SF-12. The SF-12 is a handsome, compact stereo microphone consisting of two matched elements placed one above

the other. Each element is positioned 90 degrees off-axis from the other and aimed 45 degrees from the vertical center of the mic, which is indicated by the Royer logo. The lower element is the left channel, and the upper element corresponds to the right channel, referenced from behind the mic. Each of the elements are bi-directional, with the two positive pick-ups at the front of the mic and the two negative sides to the rear. The SF-12 comes with a dedicated cable that consists of a five-pin connector that attaches to the microphone body and terminates at the other end to two standard male XLR connectors. In a typical stereo set-up, mimic placement is easily accomplished by positioning the Royer logo looking at the middle of the linear sound field. The two XLR connectors are labeled 'upper' and 'lower', making it simple to keep track of the input connections. The open grills at the front of the SF-12 should then be 'hearing' the sound source(s) at a fairly equal distribution across the stereo field.

### **In Use**

On a recent string section overdub, I used the SF-12 in a pair of Coles 4038s, which are also top-notch ribbon microphones. I set the SF-12 about five feet out in the center of the ensemble with the Coles about one and a half feet in front of each player. The SF-12 provided the broad stereo sound of the players in the room, and phase cohesiveness was not an issue when adding in the close mics. Each side of the stereo field was big and accurate. I needed a little more brightness to stand up to the track and found that a slight boost at about 5kHz with a wide Q gave the sound a nice sheen without getting edgy.

Wanting to give the SF-12 a run totally on its own merits, I put it through a second string date, this time on a solo cello in a beautiful acoustic environment. I first positioned the mic one and a half feet in front of the cello and about level with the f-hole. The sound was big and resonant, but there was a bit too much room in proportion to the direct sound from the cello. I then positioned the SF-12 about two and a half feet above the instrument, oriented more at the neck of the instrument. This was the sound I was looking for. The room ambiance did not detract from the direct sound of the instrument. According to the manufacturer's specs, the SF-12 is able to handle up to 130dB SPL, but we were nowhere near that kind of volume. Instead, the mic's superb transient response was what was most impressive. The mic handled the dramatic dynamic changes of the music without a wrinkle. The result was a big comfortable wooden tone with ample bow and string articulation with a smooth, complimentary ambiance from the room. With this same mic placement, I rotated the capsules and auditioned the MS configuration that the helpful Royer manual describes. Once again, the sound was magnificent, with the room ambiance sounding perhaps more focused around the direct signal.

## **Conclusion**

I was absolutely knocked out by the sound and versatility of the Royer SF-12. With careful mic placement, there seems to be no limit to the successful use of this extremely musical microphone.

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