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Mojave MA-100 Small-Diaphragm Condenser Microphone

This sonically distinct, pleasing tube model stakes another rightful claim for David Royer.

by Russ Long, 01.15.2008

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David Royer is best known for his Royer Labs ribbon microphone designs. But in 1985, before there ever was a Royer Labs, he founded Mojave Audio in the garage of his home. At that point, Mojave Audio was a one-man, custom pro audio gear shop. During the '90s, David Royer's custom Mojave products were used on tons of well-known recordings.

Fast forward to the new millennium, and the introduction of the large diaphragm, vacuum tube MA-200 gave the world access to Dave Royer's tube circuit design genius. Mojave's sophomore product release is the Mojave MA-100. The \$795 MA-100 is a small diaphragm, vacuum tube condenser microphone with interchangeable cardioid and omni directional capsules.

As the latest in a line of successful microphone designs by Royer, the MA-100's "cathode follower" design allows the mic to be used on high SPL instruments such as drums and guitar amplifiers, as well as the more common applications of a small diaphragm, vacuum tube condenser microphone — on acoustic instruments, cymbals and piano.

As a long time fan of small diaphragm tube microphones I was excited. Although several companies have followed Mojave's lead in this field over the past year, the MA-100 was the first new mic in this class upon its introduction.

FEATURES

The MA-100 measures 5.5- x .75-inches, and weighs .4 pounds. It has a frequency response of 30 Hz – 18 kHz +/- 2.5 dB, and offers a choice of cardioid and omni capsules, each with a hand-selected .8- inch diameter, 3- micron thick diaphragm

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The mic utilizes high quality Jensen audio transformers and military grade JAN 5840 vacuum tubes (pentode wired as triode, operated as a unity-gain buffer stage).

The microphone's performance is reminiscent of classic small diaphragm tube condenser microphones such as the Neumann KM 53a or the Schoeps M221B. The mic's sensitivity is -37 dB re 1V/pa and the maximum SPL is 134 dB. The microphone has a 450-ohm impedance (transformer balanced), and its distortion is less than .4-percent @ 140 dB SPL. Self-noise is less than 16 dB.

The mic's power supply can be set for either 115- or 230-volt operation via an external switch, and the power requirement is approximately 10 watts. Each MA- 100 microphone, power supply and cable set is burned in for 24 hours, then carefully tested and evaluated before being packaged in its protective case. The complete MA-100 package weighs seven pounds and includes the 14- x 11- x four-inch rugged carrying case, power supply, mic clip and cable.

IN USE

I was most anxious to put this mic to work on acoustic guitar. An AKG C-28 (small diaphragm tube) has long been on the top of my list of favorite acoustic guitar mics, yet I miked up a Taylor 514-CE with the MA-100 and was blown away. The sound was amazing; it had everything good that the C-28 had, except it was quieter and had more top-end "sparkle." I tried the mic with the omni capsule and was, again, more than pleased with the results.

Next, I put a MA-100 pair with the omni capsules to the task of



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Fast Facts	
APPLICATIONS	Studio, project studio, broadcast, post-production
KEY FEATURES	Interchangeable cardioid and omni capsules with hand-selected .8 inch diameter diaphragms; measures 5.5- x .75-inches and weighs .4 pounds; 30 Hz – 18 kHz +/- 2.5 dB frequency response; high-quality Jensen audio transformers and military-grade JAN 5840 vacuum tubes (pentode wired as triode, operated as a unity-gain buffer stage); package includes a 14- x 11- x four-inch case, power supply, mic clip and cable
PRICE	\$795
CONTACT	Mojave Audio 818-847-0222 www.mojaveaudio.com
PRODUCT POINTS	
Plus	<ul style="list-style-type: none"> • Quiet • Rich, full sound with nice top-end "sparkle" • Admirably handles high-volume sources
Minus

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recording piano. Again, fantastic results. I went on to use the mics to record mandolin, dobro, violin, cello, hi-hat, drum overheads and tambourine, and was never disappointed.

I must clarify that this evaluation happened before my MA-100 revelation. I was talking with Dusty Wakeman — Mojave Audio's president — and I was bragging about the results I was getting with the mics. So he quizzed me about how I liked them on snare and toms. I shamefully admitted that I hadn't used them on snare or toms, as I was hesitant about damaging the mic. He assured me they could take it.

In my next tracking session, I put the MA-100s on toms and I was truly blown away. If there has ever been a magic tom mic, it's the MA-100. They require almost no EQ and the sound is simply stellar. On my next tracking session, I used them on kick (just outside the rear head) and on the snare; once again, I was blown away. The only problem I've had with snare and toms is if the drummer puts his hat too close to his snare, or if he plays with his cymbals extremely low, then the mics are prone to pick up quite a bit of the hat and cymbals. This has been a problem a couple of times, yet I've been able to work around it by taping a small piece of foam to the top of the mic to dampen the problematic sound.

With my fear of using the MA-100 on high-volume sound sources dissipated, I went on to try it on electric guitar and had good results, though my best guitar sounds were attained through blending the MA-100 with its cousin, the Royer R-122 ribbon.

Overall, I would have to say that the MA-100 is a fairly "colored" mic. If a neutral mic is what you're looking for, the MA-100 probably isn't for you. That said, the MA-100 sounds fantastic. Its coloring is musical, and there was never an instance that I didn't like what the mic did to the color of the sound source.

SUMMARY

The Mojave Audio MA-100 Small-Diaphragm Tube Condenser microphone boasts a unique design that allows a high-SPL capacity, yet still maintains the finesse to capture the subtlest of nuances in a performance. This makes it the perfect addition to any studio or engineer's microphone collection. With a reasonable price tag, it's worth buying two or three.

- When used on drums, it is susceptible to bleed from cymbals
- Overall sound is not completely neutral (although it is "colored" musically)

Score
Under the flag of Mojave Audio, Royer Lab's David Royer has invaded the small-diaphragm condenser market.

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