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Electro-Voice RE510 Handheld Condenser Microphone

By Loren Alldrin

Though the vast majority of handheld vocal microphones are of the dynamic variety, many manufacturers have a condenser design or two at the top of their product lines. Condenser mics generally deliver a more open, natural sound, and their accuracy makes them versatile enough for many instrument mic'ing applications. These capabilities don't come cheap, however, and condensers are among the most expensive handheld mics you can buy.

With a list price of $420 (U.S.), Electro-Voice's RE510 is the company's most versatile — and most expensive — handheld vocal/instrument microphone. The RE510 offers a supercardioid pattern, switchable low-cut filter, flat frequency response and very high maximum SPL rating.

Inside, Outside

Under the grille, the RE510 has a 5/8-inch self-biased (electret) condenser element. This is a bit larger than most handheld condensers, translating (on paper) to better sensitivity and lower noise. The mic's self-biased element doesn't require external power to generate a signal, but its electronics *do* need phantom power to amplify it.

The mic's electronics include a low-cut filter to help compensate for the extra bass directional mics churn out when placed very close to their sound source (this is called "proximity effect"). The RE510's filter has a rather gentle slope and high cut-off frequency, tailing off at 6 dB per octave below about 200 Hz. This type of filter has a more noticeable effect in the lower voice range than a sharper filter placed below 100 Hz.

To keep the filter from being turned on (or off) accidentally, EV chose to place the switch underneath the mic's grille assembly. To change the switch setting, you have to unscrew the grille. Unfortunately, EV also opted to recess the switch so it can only be flipped with a small instrument of some kind. This seems like overkill — nobody is going to accidentally bump the filter switch with the mic's grille off.

Externally, the RE510 is a very attractive mic with jet-black barrel and contrasting gunmetal gray grille. EV's "Warm Grip" gives the mic a soft, warm feel in the hand. Overall heft and balance are spot-on, which makes for a mic that feels as good as it looks.

The soft grip may also help dampen handling noise, as the RE510 is as impervious to mechanical bumps and thumps as any mic I've used. The mic's capsule is extremely well insulated from the body, as RE510 transmits virtually no audible noise during typical handling. Likewise, the mic ignores taps or hits on the cable near the connector.

EV engineers did their homework in the area of plosive noise as well. "P" and "B" sounds blow right by the mic with little effect during speaking or singing. Instead of a loud thump or "pfft" sound, the RE510 emits only a slight "whoosh" with all but the most violent plosives. Keep the low-cut filter engaged, and the RE510 puts out none of the low-frequency buffeting so common with condenser designs.

The Sound

Microphones fall along a continuum of sonic character, from mics that have an uneven frequency response tailored to a specific application to those that have a very flat response. The RE510 sits on the flat end of the spectrum, having little of a sonic "fingerprint" to alter its sound. Unlike many vocal mics that have a rising high-frequency response to add clarity and compensate for proximity effect, the RE510's response is quite flat through the majority of its range. Two small frequency response bumps sit around 5 kHz and 15 k, but these aren't enough to alter the mic's sound appreciably.

This flat response translates to a versatile — if somewhat unexciting — sound. How the mic performs in the real world depends on many factors, including the sound source itself, mic-to-source distance, and the position of the low-cut switch. Beyond these, as with all mics, the RE510's sound can be altered to great effect with equalization.

Even with the low-cut switch engaged, male vocals tend to sound dark with the RE510 right at the lips. Back off the mic to three our four inches, however, and the mic's sound is dramatically clearer. Add some EQ (a cut around 300 Hz and a shelving boost above 9 kHz did the trick for my voice), and the resulting sound is excellent.

For female vocals, the RE510's flat response is a nice complement to very bright or shrill voices. Depending on how much warmth the voice needs, you can disengage the If your church is in the market for mic that can handle a wide range of on-stage mic'ing tasks, give the versatile RE510 a listen.

Loren Alldrin is a regular contributor to Church Production Magazine.

QUICK-LINK

Dial the QUICK-LINK # and reference: CHURCH PRODUCTION MAGAZINE

COMPANY: Electro-Voice
PRODUCT(S): RE510 microphone
QUICK-LINK: (952) 884-4051
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