

## EARTHWORKS

## DK25 AND DFK1 DRUM MIC SYSTEMS

by Michael Dawson



DK25/R

DK25/L

Earthworks microphones have been quietly building a fan base among professional studio engineers and drummers since the early part of the millennium. The first time we crossed paths with these distinctive industrial-looking condensers was during a visit in November 2006 to *Saturday Night Live* drummer Shawn Pelton's home studio. The mics popped up again this past summer when we were sitting in on a recording session at Cyndi Lauper drummer Sammy Merendino's space in Harlem. Other big-name pros, like Steely Dan's Keith Carlock, *The Late Show's* Anton Fig, the Killers' Ronnie Vannucci, and session great Steve Gadd are also waving the Earthworks flag, both on stage and in the studio. Now it's time for us to take a closer look at what makes these microphone systems so special.

Earthworks' systems include three-mic DK25/R and DK25/L packages (overheads plus a kick drum mic), as well as the extensive DFK1 set, which also features DP25/C and DP30/C periscope condensers for close-miking the snare and toms. We were sent one of each system to check out.

#### DK25 DRUMKIT SYSTEMS

The DK25 miking system is designed especially for drums, and it comes in two versions. The DK25/R (\$2,295) features two TC25 omnidirectional overheads and one SR25 cardioid condenser to be used on the kick drum. The DK25/L (\$2,295) replaces the two TC25s with two SR25s. All of the mics have a frequency response that extends up to 25 kHz. The

SR25s can handle sound pressure levels up to 145 dB, while the TC25s can withstand up to 150 dB.

Both DK25 setups come with an external KickPad (\$135 if bought separately). The KickPad does two things. First, it reduces the input level so the signal coming from the mic doesn't overdrive the preamp, and second, it acts as a built-in equalizer that's designed to deliver a focused, tight kick drum sound by filtering out some of the mid frequencies and adding a slight bump to the lows and highs.

Since it's detachable, the KickPad can be used with any mic to achieve a workable bass drum sound. We tested it with the DK25's SR25, as well as with a Shure Beta 52 and a Shure SM57. In all three instances, the KickPad eliminated a lot of the midrange "woof" that can muddy up a mix, and it brought out more attack and punch. It was particularly impressive on the SM57, where it transformed an otherwise unusable kick sound into one that could work for a drummer looking for an aggressive, clicky tone.

We compared the TC25 omnis with a pair of high-end large-diaphragm condensers that we often use as drum overheads. Both sets were tested in X-Y and spaced-pair configurations, placed roughly one foot above the cymbals. The first thing we noticed about the sound of the TC25s versus our usual mics was that the attack was much crisper and clearer, especially on cymbals. The stick sound had an almost 3-D quality, while the cymbals' resonance was smoother and more realistic. And the snare and toms sounded more natural and livelier. The X-Y position produced the most natural results (similar to what you hear sitting at the kit), while the spaced-pair position brought out even more detail from the cymbals.

For our testing, we tried the SR25 (with KickPad) on the outside of the front bass drum head, aimed at 45° at the center. As expected, this placement didn't allow for a tight, attack-heavy modern-rock kick sound. (To achieve those qualities, you'd need to place the mic inside the drum.) But when used on

#### HIGH-DEFINITION DETAIL

Earthworks says that what you hear when judging its microphones against others is "like the difference you see when comparing a standard television picture to a high-definition television picture." To achieve this ultra-clear audio experience, the company designed its mics with a few significant upgrades: improved impulse response for faster and more accurate transients (attacks), a shorter diaphragm settling time to prevent quieter sounds from being blurred by earlier loud attacks, an extended frequency response beyond the normal hearing range of 20 kHz to capture a crisper and more realistic image, and improved polar patterns that remain even across all frequencies and at any position within the pattern.

the outside, the SR25 had a warm and “puffy” vibe that’s best suited to classic rock, acoustic jazz, or the open, boomy kick tone Ronnie Vannucci gets with the Killers and Jason McGerr often uses with Death Cab For Cutie. In fact, Vannucci recorded some of the drum tracks for his band’s latest album, *Day & Age*, using the DK25/R system.

While the DK25/R is designed especially for the studio, the more versatile DK25/L is meant for live applications as well as for recording. This system, which comprises three SR25 cardioid mics, is particularly useful in situations where you don’t want too much room or stage sound leaking in, like at loud club gigs or in amateur home studios. In our testing, the DK25/L had noticeably less room ambience than the DK25/R, while retaining much of the clarity and “naturalness” that was heard in the TC25 omnis.

originally designed for use with vocal choirs, but their small mic head and flexible neck also make them ideal for close-miking drums. The RM1 rim mounts for these mics were a little difficult to work with, since the thumbscrew tightens to the bottom of the drum hoop and is positioned very close to the bracket. But once they’re in place, they won’t budge. Getting the mic heads into position was much easier, because the flexible gooseneck allows for a lot of mobility, and the mic body can be moved vertically within the bracket for additional height adjustments.

The DP25/C and DP30/C mics have a very focused cardioid pattern, so very little bleed from other instruments gets into the signal, which can sometimes cause phase cancellation and other audio headaches. This extra isolation was great on the snare, since engineers often battle to keep the hi-hat from bleeding into the snare mic.



#### DFK1 MULTI-MIC SYSTEM

Although the DK25 three-mic systems work great to capture an overall drum sound on their own, Earthworks’ DFK1 (\$12,000) offers a more extensive setup, with individual mics for each component of the kit. It’s an expensive package, but not unreasonably so, given the number of mics that are included and their stellar results. Included in the DFK1 are two SR25s (for overheads), two SR30s (for kick and hi-hat), four DP30/C Drum Periscope cardioid condensers (for toms), one DP25/C Drum Periscope (for snare), a KickPad, nine LevelPads (to attenuate the signal from the drum mics), and an assortment of widescreens and mic clips.

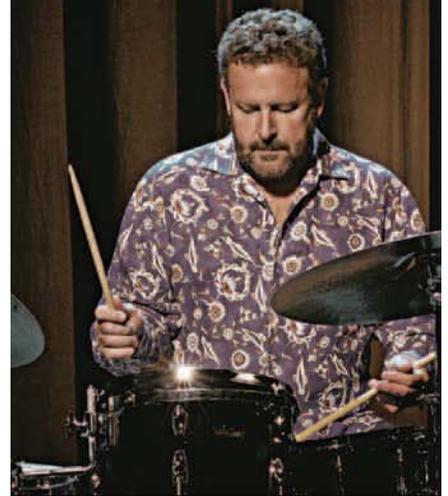
The DP25/C and DP30/C periscope mics were

The DP30/C mics captured the transients of tom hits very well, almost to the point of being *too* punchy. I found myself removing any muffling and tuning my toms for a more open sound when using these mics; otherwise they sounded a little too “boxy.” The DP25/C snare mic picked up a lot of tone and ring, as well as a strong, crunchy attack.

All of the Earthworks drum mics captured a true representation of how my drums sounded in the room. Of course, this extra realism forced me to spend some more time fine-tuning my kit for a fuller, more resonant sound. But when you’re dealing with hi-def audio, it’s those little details that end up making all the difference.

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