

# Drumming Up a Kickn' Mic Sound



by **Strother Bullins**

**P**ro Audio Review's January issue regularly dedicates much of its editorial space to microphone reviews and new microphone technology. It's an ideal way to start the year for a product reviews magazine; after all, audio professionals christen sessions with a choice of microphone, or microphones, to cover crucial sound sources.

In the spirit of yearly renewal (and synergistic editorial coverage), I turn the focus of this month's column toward microphone selection, and, specifically, something I feel I'm qualified to rant about: choosing mics for drum tracking.

## FULL DISCLOSURE — YES, I'M REALLY A DRUMMER

The only reason I became involved in pro audio in the first place was because I was a drummer. And I still am. Sure, I found more happiness in this field than I imagined was here, yet what keeps me so closely tied to a core purpose of improving the art of audio recording is as simple as two and four, or kick and snare.

Naturally, I place a lot of importance on drum sounds, and when I have a chance to review new mics, I can't help but immediately think, "I wonder how this works on snare" ... or kick, or hats, or whatever else I may prefer to hit with a stick, a mallet or my hands.

Luckily, the latest microphones that I have accepted the responsibility to review have proven to be remarkable for recording drums. So here's an X/Audio "review" of what I've been using lately, and why I didn't put these mics away after only one session.

## Heil Sound PR Series Microphones

Like any star of any industry, the famous (and sometimes infamous, at least in the eyes of their competing peers) of pro audio manufacturing know their audience, or customers. As far as I can tell, Bob Heil is one of those all-knowing folks, who not only builds products that can be made to perform the way people want them to, but also builds products that sound that way upon plugging it in. My case in point is an amazing Heil microphone trio — PR 40, PR 30 and PR 20 dynamic microphones — on drums.

## FEATURES

First, the PR 40 uses a 1 1/8-inch dynamic, end-fire generating aluminum element with a super-cardioid polar pattern, which handles huge SPL levels. Frequency response is 28 Hz – 18 kHz with a slight bump at 2.5k, which begins its slow taper down at around 4.5k, finally touching flat response at around 12k.

Similarly, the PR 30 uses a dynamic, end-fire generating element with a super-cardioid polar pattern, yet at a diameter of a 1 1/2-inches. It too can handle high SPL. It provides a 40 Hz – 18 kHz response and has a slight upper midrange bump (but is flatter overall and back to 0 dB around 7k). Heil recommends the PR 30 for many uses, specifically recording guitar amps/speaker cabinets.

Finally, the PR 20 is a handheld-style super-cardioid dynamic with a frequency response of 50 Hz - 18 kHz and, like the PR 40, a 1 1/8-inch aluminum element. It features a 2k to 5k bump, yet is otherwise flat, frequency-wise. Heil recommends the PR 20 as the "best" live sound vocal microphone and "absolute best" snare drum microphone.

All Heil mics are built in the USA — Fairview Heights, Illinois, to be exact. The mics are attractive, yet look rather common. Most notably, Heil

microphones offer an exceptional cost-to-quality ratio: the PR 20, PR 30 and PR 40 list for only \$179, \$299 and \$375, respectively.

## IN USE

The PR 40's "bouquet of midrange articulation," as Mr. Heil refers to it, "bring(s) gorgeous speech and instrument reproduction without the use of outboard equalization." Let's make sure to include percussion — most notably kick drums — in that description; Heil does specifically recommend the PR 40 for kick, and, no kidding, it's gonna be all you will need for your kick in rock drum tracking sessions.

I realize that I may be bold with this statement, as the industry is ripe with choices to mic a kick drum. But I have used nearly all of the best ones — or so I thought — before I tried a PR 40 on the thick-shelled birch 22-

inch drum I've been miking for well

over a decade. From

lower-end and simple,

cheapie dynamics to high-

end, esoteric choices that cost

more than all the drum equipment I

personally own, nearly every mic you

can imagine has captured this kick. And it

happened on every format you can imagine:

Ampex/Quantegy 456, 499 and GP9, plus

BASF/EMTEC two-inch analog tape at all IPS and

levels; all kinds of multi-track digital recorders

(Otari DTR-900, Sony 3348, etc.); and nearly all

DAWs (just name one) up to 24 bit/96 kHz.

On top of that, there were even more

and completely interchangeable variables in all the various

signal chains. You get the drift (and my muscles ache thinking about it).

Yet, out of all these sessions, I never remember anyone

putting up a microphone on the kit and sitting down in front of the studio

monitors for everyone in the room to say, "Yeah!" before some EQ tweaks or plugging

some snooty box into the chain to tape or DAW. However, with the PR 40, this same kick — centrally miked a half-inch off

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the front head (an Evans Retro Screen, acoustically-transparent offering no extra sustain) — was truly good to go, immediately. Since I first put it on the kick (and I haven't stopped since), even the most persnickety musician/producer/engineer I work with doesn't immediately lean over my shoulder to punch in channel EQ. (Of course he wants to, but at least he waits, listens for a minute or two, then keeps his normal deconstructive tendencies to a minimum ... it's all about small victories, folks, small victories.)

How would I describe the sound of the PR 40 on kick? It's essentially pre-EQed, it's never wrong, and it has all the aural info you'll want for later use. Did I say never wrong? For rock kick, absolutely. For other pop styles, your mileage may vary ... however, I doubt it.

On snare, the PR 30 shares much of the same story that I have attributed to its big brother's relationship with a kick drum. The PR 30 is fat and snappy on a medium tension snare drum and gives body to thinner snare drums. I can attest that it is round and complex, yet transient, on double-headed toms, 10-inch to 16-inch diameters.

The PR 20 is great on snares, too. I only had one PR 20, so I didn't try Heil's dual PR 20, top-and-bottom technique on the snare, but it did elegantly make its presence known when it was switched with a Samson Q8, my favorite "SM50-something" substitute. Yes, the ubiquitous yet special top-end metallic bite of the most popular snare mic in the world isn't naturally present in the PR 20. Many times, that bite may be called for (or it could be that so many artists are just so used to it they want to hear it because of habit, I digress). But with some EQ, the PR 20 can sound that way, too. What's so special about the PR 20 is that it sounds much like that "working man's microphone" carefully sculpted via good EQ by one hell of a talented working man. In other words, it's a no-brainer on snare 'cause I won't have to mess with it much, if at all.

## | SUMMARY

Between the PR 20 and PR 30 on snare, I prefer the PR 30; rock music production is one hell of an impressionistic art, and I'm into painting some fat images these days. Again, as in the case of the PR 40, your mileage may vary, but I doubt that you'll frown on what a PR 30 can give you to work with as any given project evolves past the basic tracking stage.

## CAD Equitek E60 Cardioid Condenser Microphone

Together, condenser microphones, drums and drummers have always made me a bit nervous. It's no wonder, though, as for years I've heard engineers half-jokingly say, "Now, don't hit that one," while pointing to their obviously prized, dainty-looking pencil mic located just inches from where I plan to smack the crap out of a pair of hi-hats. This has fueled phantom-powered/percussion pairing paranoia.

Now, almost a year after discovering the relatively inexpensive CAD Equitek e60, this fear has been nearly conquered. It's not that I haven't found other good, small diaphragm condensers that can take a whack or two, or decent ones that won't break the bank if you have to replace it. I just suspect that the immediate comfort of the e60 is visual; to my eyes, it looks like a midge! Sennheiser 421 with a Neumann KM 184 hiding inside of it. The e60 is literally a cute, gold and silver small diaphragm condenser sparkling inside a tough-as-nails black grille, housed inside a scratch-resistant, "rubberized" urethane finished body.

## | FEATURES

The CAD e60 is a front-address, externally biased, cardioid condenser microphone featuring a 16 mm, 24-carat gold-sputtered capsule with a 10 dB non-capacitive pad and four-position high-pass filter at flat, 40 Hz, 85 Hz and 122 Hz frequency settings. It is equipped with a standard threaded mic stand adapter as part of its body. According to the e60's published frequency response, its mostly-flat frequency performance gets hilly around 4 kHz, rises to its highest peak (+5 dB) at 8 kHz, and dips nearly back to flat at 15 kHz. It can handle an impressive 140 dB SPL. I found that the latter feature, an ability to handle loud level sources, is one of the e60's main attributes.

## | IN USE

During my evaluation period with the e60, I have used it on hi-hats, cymbal spots (mainly ride cymbal), toms of all sizes, snare, overheads and room, even close-miked guitar amps. It worked well for each sound source and seemed to like EQ tweakage, even when dramatic and/or surgical.

While recording basic tracks with drums, bass guitar and electric guitar, a guitarist and I found the e60 useful, if not for a main rhythm guitar sound, for a crunchy, detailed track to mix in with the dynamic mic we chose to use. But I found the e60 to be most useful on toms; its inherent frequency-based signature seemed to bring the toms to life against a backdrop of solid (and dynamic mic captured) kick and snare. I

used four e60s on four toms in one particular session; as a result, the toms congealed as a four-note, very melodic instrument with a signature transient "style," if you will. CAD reports that the e60 offers great performance on horns, and judging from how it treated these toms, I can see how that would be an accurate statement.

Finally, I must note that the e60 lists for \$299, but I've seen them recently advertised "on sale" in buy-one-get-one-free deals, as well as deep discounted sale prices. With that in mind, if you're in the market for a good, solid condenser that can take full sonic blasts (and the occasional solid stick hit), move quickly and accordingly.

## | SUMMARY

I have recorded many drum sessions over the past few months with this random pairing of dynamic and condenser



microphones: the Heil PR 20, PR 30 and PR 40 with CAD e60 condensers (when and where I felt condensers fit the bill). So far, I have found no reason to use anything else for recording rock drum tracks, other than a beloved Shure KSM 141 pair as X/Y overheads. Together, this mic collection has responded well to all sorts of treatment, especially heavy, rock-friendly compression, and the mics have delivered the full-frequency goods needed for modern pop productions with Technicolor sheen.

As you can probably tell, I am mainly impressed with the Heil microphones. That's because if any instrument screams for good dynamic microphones, it's kick and snare. We've all had many good choices in dynamics over the years, yet — specifically with the PR 30 and PR 40 — you could say we drummers now have the ultimate choice.

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