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A totally new, innovative mic design, the Audio-Technica AE2500 uses specifically designed dynamic and condenser cardioid transducers mounted side-by-side in perfect phase alignment in a single microphone body. This dual-element approach offers audio engineers a kind of remote control at the mixer position. Whether you mix the mic's two elements together or record them on separate tracks, the \$699/list AE2500 offers many creative processing options when miking LF sources such as kicks, floor toms and bass cabinets.

The sturdy, all-metal windscreen cover of this 13-ounce mic unscrews to reveal two all-new A-T capsules mounted on a rigid, polished, nickel-plated metal support structure to withstand excessive shock and vibration. The dynamic element's neodymium magnet structure is specifically designed and tuned to capture the beater's attack. The companion condenser element has a self-polarized (electret), 11mm-diameter capsule with a 2-micron-thick diaphragm and is housed in a special structure to help reduce high-SPL distortion at subsonic frequencies.

The build quality is excellent: I'm sure that the AE2500 would stand up to the "drop-kick" test that any mic should pass before being placed near a drummer. The AE2500 comes with an AT8471 isolation clamp mount and a 5-pin XLR connector with mating plug, and a 16.5-foot cord that fans out to two standard XLR-3 plugs. Thoughtfully, the ends are marked "dynamic" and "condenser" so you know which is which and which requires phantom power. Onboard electronics for the condenser element include a switchable -10dB pad and a -12dB/octave, 80Hz highpass filter.

## IN THE STUDIO

My first look at the mic was for a drum-sample session in which we sampled two different bass drums. Besides the AE2500, I used an AKG D-112 and a Shure Beta 52 as a reference, not as an A/B test. The kick drums were an 18-inch 1971 Slingerland floor tom (with a Danmar Percussion Tom Kick Riser conversion) and a clear Remo Emperor head. I also recorded a 1967 22-inch Ludwig kick with a Remo Powerstroke 3 head. Both drums had new single Remo heads with Remo Flam Slam patches. We also used a Danmar felt beater. On all tests, the mic was centered exactly on the shell's diameter, pointed at the beater, with half of the mic's body inside the drum and half outside.



My recording setup was a PreSonus M80 8-channel preamp and a Pro Tools|HD system set to 24-bit/192 kHz. No processing was used. Drummer Jimmy Hunter played snare and hi-hat for some of the recordings to assess differences in the amount of leakage.

Comparing the AE2500 to two really good dynamic kick mics (AKG D 112 and Shure Beta 52), I noticed that its dynamic element had more output than both and less snare/hat leakage. The AE2500's dynamic captured the attack of the beater in a balanced way compared to the Shure's accentuated top end. The D-112 was smooth-sounding in the highs, but I had to add top-end EQ later in the mix. I found the AE2500 dynamic had better upper-bass response than the Beta 52. While the D-112 sounded good on both kicks, I couldn't get the presence I got with the AE2500 dynamic.

The Beta 52 offers more subsonic level than either the D-112 or the AE2500 dynamic; adding in the AE2500 condenser element quickly changed that! The condenser produces a deeper and rounder sound quality than the dynamic, and I found using the -10dB pad produced a consistently hotter digital recording level than without it. Compressing just the dynamic half and mixing in the condenser unprocessed, I found a cool new bass drum sound.

I loaned the AE2500 to engineer Erik Zobler, who was tracking artist Will Downing. Zobler put the AE2500 on snare, where he also had a Beta 56 EQ'd with a Pultec equalizer with about +8 dB at 10kHz shelf. Using the AE2500 and mixing the two outputs equally together (the condenser with -10dB pad in), he got a good-sounding "crack" from the snare without EQ.

Next up, at prerecord sessions at Capitol Records in Hollywood for the 2003 Academy Awards, engineers Tom and Dan Vacari used the AE2500 along with the Shure Beta 52 on drummer Harvey Mason's kick drum. They got every sound needed for all the different music styles required for that show.

## A NEW TREND

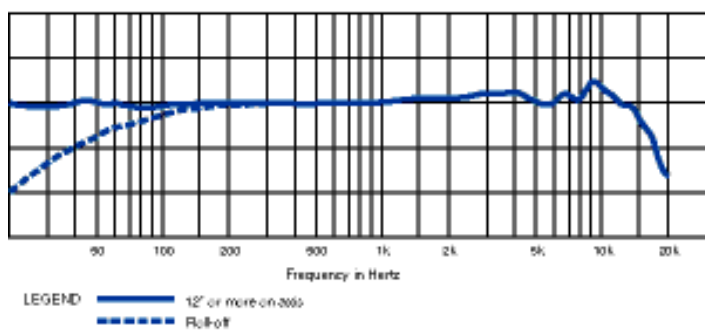
The AE2500 leads what I hope is a new trend in mic design, where now---beyond the exact mic choice and placement---a new level of microphone control is possible. I liked the option of mixing and processing the mic's two elements with perfect phase integrity for a cohesive bass or snare drum track that you just can't get using two separate mics.

Thanks go to Dan and Tom Vacari, Erik Zobler, [Jimmy Hunter of Cazador Studios](#), [LAFX](#) and [Capitol Studios](#).

Audio-Technica, 330/686-2600, [www.audio-technica.com](http://www.audio-technica.com).

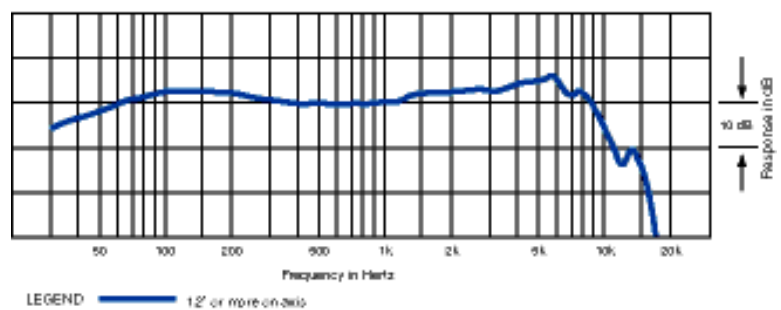
Barry Rudolph is an L.A.-based recording engineer. Visit his Web site at: [WWW.BARRYRUDOLPH.COM](http://WWW.BARRYRUDOLPH.COM)

Frequency Response (Condenser)



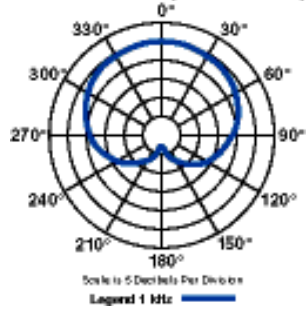
Frequency Response Curve For The Condenser Element

Frequency Response (Dynamic)



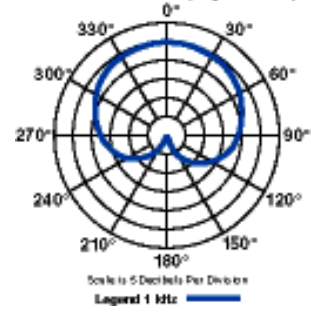
Frequency Response Curve For The Dynamic Element

Polar Pattern (Condenser)



Polar Pattern For The Condenser Element

Polar Pattern (Dynamic)



Polar Pattern For The Dynamic Element



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