Subject: Where's the Voice Coil?
Posted by Bill Epstein on Mon, 26 Mar 2012 11:09:16 GMT
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I'm looking at an Alpha 10A and measure approx 2" from the spider to the front of the speaker frame.

Is it reasonable to assume that the spider is roughly centered on the coil and it's about 1 1/2" to the front?

Subject: Re: Where's the Voice Coil?
Posted by Wayne Parham on Mon, 26 Mar 2012 13:03:20 GMT
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The voice coil is centered just behind the front plate. That's the physical center, but the acoustic center depends on a lot of stuff. So if that's what you're really wanting to know, you gotta measure it. But you can estimate it as being just behind the front plate.
The Acoustic Center: How it applies to Loudspeaker Measurements

Subject: Re: Where's the Voice Coil?
Posted by Bill Epstein on Mon, 26 Mar 2012 13:28:22 GMT
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Measuring at greater distances to lessen the effect of the acoustic center seems to imply that by the time the wavefronts reach the listening position time delay of the drivers becomes moot?

Couldn't hurt to try and line up the voice coils, tho'?

Subject: Re: Where's the Voice Coil?
Posted by Wayne Parham on Mon, 26 Mar 2012 15:09:49 GMT
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Measurements at a large distance make small shifts in acoustic center have less effect on SPL, but they don't change the effects on phase. If you have two sound sources that are a half-wavelength apart, you'll still have cancellation, no matter what distance they're at. So distance won't help with that. But if the goal is to get accurate measurements of SPL, then measuring at a distance helps, because it makes the smal shifts in acoustic center less relevant. For example, if the acoustic center is one meter behind the face and you measure one meter from the face, then you have actually measured two meters from the source. But if you measure ten meters from the face, then that's eleven meters from the source. One is a factor of 2.0-to-1.0, the

other a factor of 1.1-to-1.0. See the difference?