Subject: Re: PI 2
Posted by Wayne Parham on Tue, 07 Jan 2020 17:27:27 GMT
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Fore-aft driver offsets naturally shift the forward lobe centerline. But when I've measured one Pi and two Pi speakers that had drivers mounted flush and compared those with surface mounted drivers - with about 3/8" difference in the fore-aft offset - the difference isn't immediately obvious.

Without waveguides, the pattern isn't uniform through an arc. It is an averaged energy, sort of like the reverberent field. It tends to be a little more uniform across the horizontal than the vertical, but I still tend to see them as creating a statistical energy distribution.

There is a "perfect spot" where the acoustic centers are the exact same difference to the listener, and where the drivers are close enough to on-axis that their amplitude response is basically the same as on-axis. It's within about 10° of being straight on-axis. So as long as the fore-aft offset is within this range, the location of the forward lobe simply shifts up or down a little bit.

But most listeners aren't in this location. The forward lobe - which is actually more like a forward strata - is pretty narrow vertically. The horizontal coverage is a little wider, but even then, we're still talking about a speaker that isn't made for constant directivity. It provides a uniform energy distribution statistically, but it does not provide constant directivity like the larger models do.