Subject: Re: General evaluation of midrange drivers
Posted by Norris Wilson on Sun, 19 Apr 2009 04:40:07 GMT
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It looks as if you went through a thorough process in choosing the right midbass driver that would fulfill your design goal in your Seven Pi midhorn.Looking at the intended desire to obtain a driver that would cover the entire midrange frequncy band. I see that you came up just a little short of this goal with a bottom frequency response of 250Hz.Were there any other driver solutions that would fill the bottom octave below this 250Hz? Possibly the use of a 12" midbass driver in a slightly larger horn that would be rolled off to a different 1" compression driver around 1kHz to 1.25kHz?Or, did the early break up mode of the larger 12" driver keep you from accomplishing the correct frequency range for your midhorn?How far above the intended upper crossover frequency of the midhorn driver would one need to have a clean limited cone break up to maintain the sound quality that you are satisfied with, 1 to 2 octaves?Also, looking at the output efficiency drop of the Emminence compression driver in the tweeter horn of the Seven Pi design down to 98db from the use of frequency extension EQ, thus causing you to pad the midhorn down to match.Would the slightly higher efficiency of the B&C DE250 compression driver allow you to remove this midhorn padding resistor?If so, is there anything to be gained in doing so, like a more open sound character of the midrange?And finally, I saw where you had an extension at the mouth of your original midhorn design that you precluded from the final design.My understanding from your removing it was, due to it giving very little bottom frequency extension below the 250Hz in eigth space, it made very little contribution for the added complexity of the horn?Obviously, with the FS of the chosen 10" drivers (Delta 10, JBL 2012) reaching well down into the sub 60Hz region. One would think a larger horn would get you to the bottom of the desired midrange frequency spectrum when using these driver, possibly in the 100Hz to 150Hz range? Doing so in a quarter space loading placement for a more universal design not requiring corner placement to obtain a lower cut off? Could you ellaborate on why you were unable to obtain this lower frequency response with the slightly larger original horn using these drivers? Is it more of a question of quality over a quantity type of design choice?Knowing what will work in a good midrange horn design from your experiemntation. Would it be advantagous to have a driver like the 10" AE TD10M modified to fill your desired goals over an off the shelf driver such as the Eminence Deltalite 10?I am looking forward to your results from experimentation with the AE drivers in this and other applications for your speakers.ThanksNorris