Subject: Pi Midhorn with FOSTEX speaker
Posted by Eric Mainardi on Wed, 13 Apr 2005 09:49:06 GMT
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About the integrity of the 100 to 5000Hz range, where the ear is most sensitive :With the Pi Midhorn, rather than the JBL 2012H which shows a smooth but ascending curve from 100 to 2500Hz, why not use the really audiophile FE208E Sigma FOSTEX speaker which has a flat response from 100Hz to 5K with an average 97dB efficiency ? Or the less expensive FE206E ?http://www.fostexinternational.com/docs/speaker_comp/FE-E-Sigma-Series.shtmlhttp://www.fostexinternational.com/docs/speaker_comp/FE-Series.shtml

Subject: Re: Pi Midhorn with FOSTEX speaker
Posted by Wayne Parham on Wed, 13 Apr 2005 13:36:52 GMT
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When a driver is used on a horn, its response is changed dramatically. Much of what you see as rising response in a direct radiator is caused by collapsing directivity, as it goes from being an omnidirectional source to being more and more directional as frequency goes up. A horn sets the directivity and changes that.If a direct radiator has a flat response curve on axis over a very wide frequency range, then it actually reduces acoustic energy as frequency rises. This compensates for collapsing DI as a direct radiator, but it also reduces output at high frequency when used on a horn.

Subject: Re: Pi Midhorn with FOSTEX speaker
Posted by Eric Mainardi on Wed, 13 Apr 2005 16:05:21 GMT
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Thanks, Wayne.I have a pair of E-V DL10X : it seems even better than JBL 2012H and is claimed as "suitable for horn loaded mid range devices". Does it match your Pi midrange horn ?BTW, what is the typical response of your midrange horn ?
 DL10X data sheet

Subject: Re: Pi Midhorn with FOSTEX speaker
Posted by Wayne Parham on Wed, 13 Apr 2005 16:56:53 GMT
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locally, or I can ship you a flat pack. They generally work best from 200Hz to 2kHz, although this range is driver specific. Some drivers don't get much past 1kHz and others have output all the way to 3kHz and beyond. Output above 2kHz is generally breakup mode resonances, so I generally prefer to limit output to 2kHz or so. But most of the better drivers don't go up that high because anyway breakup modes are suppressed.

Subject: Re: Pi Midhorn with FOSTEX speaker
Posted by Kim Schultz on Fri, 15 Apr 2005 05:52:54 GMT
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How do you predict how high a horn loads the driver ?I have made a couple of 200hz round fronthorn, and they sound great with Lowther PM2A but they have too much midrange with Coral Beta 8.Now I know that its because of the Coral driver having a flat response vesus the Lowther which has a rising response curve.Does the horn load up to the wavelenght that matches the diameter of the horn mouth ?

Subject: Re: Pi Midhorn with FOSTEX speaker
Posted by Wayne Parham on Fri, 15 Apr 2005 11:25:54 GMT
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You can predict pistonic behavior with modelers like Hornresp, but the problem is that high frequency response is much more determined by cone breakup and phase plug or lack thereof. These don't enter into models like Hornresp. You can estimate response by overlaying the driver's response with the horn's pistonic model, and algebraically adding them. But to make an accurate prediction, you would really need an element model of some sort. Or, of course, a physical model.
