Subject: Large Heils As A Line Source
Posted by thetubeguy1954 on Mon, 07 Mar 2005 19:35:24 GMT
View Forum Message <> Reply to Message

I am considering using 4-8 large Heils per side as a dipole line source. Has anyone tried this? If so, what were the results? I was told that the large Heil can typically be crossed over at 800Hz. Would using 4-8 pers side lower that fiqure? Also does overall efficiency increase much (I know power handling does)over what one Heil by itself has? Thanks in advance for your help.thetubeguy1954

Subject: Re: Large Heils As A Line Source
Posted by Jim Griffin on Tue, 08 Mar 2005 01:45:24 GMT
View Forum Message <> Reply to Message

I have never worked with a Heil driver and I don't know what sort of radiation pattern they generate in the vertical plane. I assume of course that their horizontal radiation is very wide and room filling. When you start to vertically array drivers like ribbon tweeters and the Heils you must consider how they sound fields overlap. This overlap would determine whether or not you have a resultant overall efficiency increase. With ribbon strip tweeters the longer length ones (say 7" or longer) have diminished vertical plane radiation beyond their length so as you go up in frequency (into the 10-20 kHz octave) you'll get less overlap in their sound fields. Hence, while you'll have an overall efficiency increase lower in the frequency band but as you move upward the sound fields don't overlap so you realize little or no increase. In one aspect this is a blessing since you'll generate no comb line effects as the separation between drivers approaches two wavelengths where cancellation would occur if their fields overlapped.Do you have radiation patterns or a link that shows the vertical radiation pattern of a Heil driver?To answer your other question: You likely can lower the crossover frequency a little as distortion effects would be spread among several drivers for a given SPL created. Again more knowledge on how an individual driver performs would give you some clue as to how the array would perform. Jim

Subject: Re: Large Heils As A Line Source
Posted by thetubeguy1954 on Thu, 10 Mar 2005 17:57:55 GMT
View Forum Message <> Reply to Message

First thanks for taking the time to respond to my post. I did some research and from what I've found, the HEIL is quite an impressive driver. The Heil Air Motion Transformer (AMT) speaker which handles everything from 700 Hz to 23 kHz (although I'd cross it over at 1000Hz) Is EXTREMELY limited in vertical & very wide in horizontal dispertion. German-Physiks (makers of the DDD "Walsh-Driver" say this about the Heil; "... leaf transducers which include all electrostatics as well as ribbon type dynamic loudspeakers; flat panel speakers such as the NXT

and BEST; the Heil air motion transformer which is essentially a class with only one member."Albert Von Schweikert says on his website "...Albert worked closely with Dr. Oscar Heil, inventor of the Heil Air Motion Transformer (a folded-ribbon tweeter with some of the finest measurements ever recorded)."So it appears to be thought well of. Now knowing vertical dispesrion is extremely low and the diaphram is essentially a horn loaded ribbon (front & back) with a very wide horizontal dispertion pattern, do you have any other thought about using 4-8 per side?Thanks, Tom Scata (thetubeguy1954)

Subject: Re: Large Heils As A Line Source
Posted by Thatch_Ear on Tue, 15 Mar 2005 19:47:20 GMT
View Forum Message <> Reply to Message

I have some DIY transmission lines with a 12" driver that is rolled completely off at 10Khz. Using a 6 db high pass (single large high voltage OIP cap) I have AMTs sitting over the VCs for phasing. I did have some AMTs crossed at 7K in the back room on top of some Altec 416s but recently got some Aristocrats with EV triax which I listen to back here for now. For grins, chuckles and personal edification I decided to stack the AMTs. Since I have them crossed at 10K I can't tell you how low you might take them. Also 1 pair has original diapragms and 1 pair new. I believe the new can take lower Hz but to my ears the old are a bit better at the top. Slightly different materials I guess.I still have them stacked because I just haven't felt like getting the soldering rig in there and changing things back. My opinion is that the highs have become a bit sharper, or as I told a friend,"Like breaking glass."I don't know if it is because there is twice as much area for producing highs, using 2 different diaphragms or what. I am not really answering your question because this isn't really an array and the bottom ones are head high sitting on boxes but there has not been any kind of improvement in presence, placement, soundstaging and to me just a tad bit of too much brightness.I went to T.H.E. Show in Las Vegas a couple of months ago and listened to the new Oscar Heils which are 2 ways with the dipole AMT on top. I wasn't impressed. The AMT is smaller and the rest of the speaker seemed a bit slow, so it was a bit muddy.Since these are dipoles and a lot of what you hear is bounced off the wall(s), I don't know if a stack rising from the floor would give you better imaging than just a pair. If you want to play around with these I would suggest that you limit the bandwidth on the ones close to the floor to mids and the ones on top to highs. These do have great mids, but seem to be best used only as tweeters. The diapragm life should be greater by not trying to get over 19Khz range out of them too.I use a 300B SET stereo amp with a pair of isobaric subs running on SS for bass. AMTs are faster than ribbons, so matching drivers for speed as well as efficiency is important.
