Subject: Dipole Speakers (particularly ESL)
Posted by gofar99 on Thu, 20 Oct 2011 20:57:03 GMT
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Hi Everyone, A few weeks ago there was a discussion about various types of speakers and how they radiate into listening spaces. I was tempted at the time to add a bunch of information about my experiences with ESLs as they behave a bit differently. I thought it was kind of OT and decided to put the thoughts out separately. So here they are as an attachment. Enjoy reading about my hair pulling experiences.

File Attachments
1) SOME THOUGHTS ON USE AND PLACEMENT OF DIPOLE SPEAKERS.doc, downloaded 632 times

Subject: Re: Dipole Speakers (particularly ESL)
Posted by AdrianG on Sun, 23 Oct 2011 01:04:44 GMT
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Thanks for sharing your experience, it sounds like you went through quite a lot of effort on these speakers. After all that frustration I bet it was a great relief to finally make it work. My listening room is probably not big enough to try this, but you've certainly piqued my curiosity. Maybe someday in the future I'll give it a shot.

Subject: Re: Dipole Speakers (particularly ESL)
Posted by AudioFred on Sun, 23 Oct 2011 12:21:15 GMT
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A very good and useful summary!

Here's the link to a similar summary by Duke Lejeune about the placement of bipole speakers. Duke suffers from bipolar disorder, but when he is on his meds his ramblings about the technical characteristics of speakers that fire out of the front and the rear make perfectly good sense.

The linked discussion is about bipole speakers (Audiokinesis), where the front and rear waves are in phase, versus dipoles (Magnepan, Martin Logan), where the waves are 180 degrees out of phase. Bipoles load the room with bass very differently from dipoles, and also differently from hybrid speakers like Martin Logans that usea monopole woofer. However, the midrange and treble behave approximately the same with all types, and this very large frequency range is where the soundstage is created.

Duke recommmends a placement of at least 3.5 feet from the rear wall, and preferably five feet. My experience with Magnepans confirms this.

Subject: Re: Dipole Speakers (particularly ESL)
Posted by gofar99 on Sun, 23 Oct 2011 16:18:26 GMT
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Hi Fred, good link. I believe it is spot on regarding the placement from the wall behind the speakers. Mine are at 40 inches. That would result in a reflective path of about 11-12 feet to the listing spot. Additionally I suspect that Martin Logan attacked the wrap around at higher frequencies by using the curved panels. It would tend to support the good sound even off center. The increased reflective sound field is also true and is what I personally like, but a lot of folks would prefer the more precise sound stage of conventional speakers. Yes it is also true if the panels are too far apart there can be a tendency to make instruments in the center to be huge. A really odd effect that you have to hear to believe. This requires a rethinking of how far apart the speakers should be. The common equilateral triangle is a big no go. It seems from my experience that the angles to the speakers is closer to a 75 degree angle than a 60. (speakers about 1/3 closer than you would expect).

Just FYI for all you folks that will go to LSAF in May. I am anticipating bringing the Vistas to it so you can hear and see some of the good or bad of this type of speaker.

One additional thing... most ESLs are very power hungry. The Vistas are rather the opposite and drive very well with as little as 10 watts. Like other planar types they have a decreasing impedance at high frequencies going from a nominal 4 ohms down to 1.2 at 20KHZ. Seemingly a difficult load for a tube amp, but my KT88 Oddblocks have no problems with it. Also at LSAF I plan to have a both the updated KT88 and new KT120 amps to drive them.

Subject: Re: Dipole Speakers (particularly ESL)
Posted by AudioFred on Wed, 26 Oct 2011 22:57:14 GMT
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Bruce, I'm looking forward to hearing the Martin Logans at next year's LSAF. A couple of days ago I visited a Houston Audio Society friend who as a pair of the larger Martin Logans (don't remember which model), and the soundstage was spectular.

Subject: Re: Dipole Speakers (particularly ESL)
Posted by gofar99 on Thu, 27 Oct 2011 01:27:44 GMT
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Hi Fred, Yes. The only real problem I see is the rooms. The hard surface walls will be a challenge. I'm working on a plan that uses heavy cloth quilts that musicians use on stages to cut down on reflections. I think I can make a portable frame to hold a pair of them so I can stand

them against the rear or perhaps the front wall.