Subject: Array Me in the Right Direction
Posted by Cuppa Joe on Sat, 15 Oct 2005 03:15:42 GMT
View Forum Message <> Reply to Message

Could someone here please guide this amateur to a forum which covers arraying horn-loaded systems for pro audio sound reinforcement? (I'm already acquainted with Mr. Fitzmaurice's site, by the way.) Vertical, horizontal, point-source, whatever. Pro & Con arguments are both welcome. My many thanks for any input!

Subject: Re: Array Me in the Right Direction
Posted by wunhuanglo on Sat, 15 Oct 2005 12:37:50 GMT
View Forum Message <> Reply to Message

May I suggest going to JBL Pro and reading their papers and application notes on their Vertec system? Compare that with say EAW's stuff and you should have a pretty complete picture.Pro Sound Web (www.prosoundweb.com) is a good user site.FWIW

Subject: Re: Array Me in the Right Direction
Posted by Cuppa Joe on Sat, 15 Oct 2005 23:40:50 GMT
View Forum Message <> Reply to Message

Been there, done that. Actually, I'm hoping to avoid commercial sites, in favor of forum-like settings for kicking around ideas, exploring theories, stumbling over myths, etc. One thing I'm curious to investigate is horizontal, arced point-source systems (and their apparent demise?) VS vertical line arrays. Horn-loaded or not, in either case. Is Pro Sound Web still the better choice for these kinds of subjects?

Subject: hmm
Posted by Mike.e on Sun, 16 Oct 2005 05:02:10 GMT
View Forum Message <> Reply to Message

meyersound has more infoLink is good!
http://www.burton-manor.co.uk/Audio/LAthoughts.htm

Subject: Re: hmm
Posted by Cuppa Joe on Sun, 16 Oct 2005 15:13:10 GMT
View Forum Message <> Reply to Message

Yes, I've found good reading in the past on the Meyer Sound website. Hey Mike, that other link looks like it'll be a fun read! Thanks, man! However, I'm still trying to dig up reasons and opinions as to why the horizontal, horn-loaded curved arrays of the past are in the dumpster. It's been suggested, even when horn-loading mid/high paks so there's an almost complete segregation of coverage angles between sources, that the concept still doesn't work. I have an interest in arraying some DDS 2-25 horns (25 x 30 degrees) in 25-degree traps over a yet undetermined midbass section. The idea seems straight-forward enough to me, but I've been told that it won't fly in the real world. (The Nexo reprint I have doesn't really explain why a well-designed HF horn--properly crossed--in a matching trap would exceed its coverage angles so severely that it would degrade the entire array's performance.) Comments, please??

Subject: Horizontal coverage
Posted by Wayne Parham on Sun, 16 Oct 2005 17:26:09 GMT
View Forum Message <> Reply to Message

Check out this link in the archives:
A few useful links

Subject: Re: Horizontal coverage
Posted by Cuppa Joe on Sun, 16 Oct 2005 18:38:26 GMT
View Forum Message <> Reply to Message

Ah, yes! Real answers plus facts! (Pretty pictures, too.) Thanks a load, man!

Subject: Re: Horizontal coverage
Posted by Mike.e on Mon, 17 Oct 2005 01:14:58 GMT
View Forum Message <> Reply to Message

I think thats what the precision directivity series from JBL is about-improving the horn pattern control as much as possible.Waynes got all the best links!

Subject: Re: Array Me in the Right Direction
Posted by Todd W. White on Wed, 19 Oct 2005 21:05:02 GMT
View Forum Message <> Reply to Message

Most of the line array stuff is pure hype. When discussing this issue recently, a friend of mine put it well when he said: "People seldom need the power density that a line array can provide, and almost never have a seating area that is the right shape to be covered by a line array. And you can't just stick a pair of them side by side to widen the coverage. Most projects can't fit a tall enough line array to have a broadband line array behaviour, so in the frequency range it would really help (80-250Hz) most of the line arrays used aren't line arrays at all." Referring to the ad hype, he said: "At least they generally haven't included the old Meyer B.S. that promoted the idea that the sound could go out so far and then just drop off. Line arrays just keep going and going and going, except for excess atmospheric attenuation of course. "I never hear that issue addressed when people claim 500'+ of coverage without significant level loss, maybe at 500Hz, but the 4khz will be sucked up by the air by the time you get that far away, and a good bit of 2khz too. The last time I actually used a line array it was a stack of 4x 203B/290's in a Giant Voice system. Even if you can get true line array behaviour and make the wavefront cylindrical rather than spherical, you can get the drop off in level down to -3dB/doubling of distance, but the excess atmospheric attentuation doesn't change, it's still something like -8dB/100ft @8kHz and -5dB/100ft @ 4kHz." I think Barry McKinnon said it rather well...

Subject: Re: Array Me in the Right Direction
Posted by Cuppa Joe on Thu, 20 Oct 2005 00:51:21 GMT
View Forum Message <> Reply to Message

I've also wondered in the past how the short-throw horns in some line array designs could get the HF to the back of a concert venue. However, for the most part, I have nothing against line arrays, as they have their place in pro audio. I was mostly curious about why the horizontal, arced point-source systems had mostly disappeared. Based upon the recommended reading and responses, I've arrived at two conclusions about horizontal VS line arrays:1)You can't get away from imperfections in any arrayable system (such as lobing error and comb-filtering, etc.), but most are less obvious in vertical line arrays. So, you have to be more careful about the design compromises you choose to tolerate for the horizontal.2)Since horizontal tight-pack systems aren't truly "point-source" because they can't actually emit from a common locus, your choice of components and their arrangement becomes more critical than with vertical arrangements.It seems to me that redesigning the horizontal tight-pack array of olde is more of a challenge than it is an impossibility!

Subject: Properly designed point-source systems are not easy to design OR install
Posted by Todd W. White on Thu, 20 Oct 2005 00:59:37 GMT
View Forum Message <> Reply to Message

Let's face it: it's a LOT easier to hang a box with all of the moving parts already mounted in it, aim it (like a shotgun) in the general direction of a crowd, crank it up and proclaim it as "SUPERIOR" than it is to do take the measurements (if you don't know which ones, I can elaborate), do the math, be familiar with the ACTUAL perfomance characteristics of the speakers you are using, and be able to assemble on paper (or computer these days) a COHERENT system (much less install it correctly) that WILL WORK RIGHT.It takes a LOT of understanding and experience to do a big cluster that really CAN give uniform frequency response AND SPL to all seats, so most designers and installers want it easy and LOUD, so that's what the manufacturers give them.It will be YEARS before the end users/owners figure out that they've been ripped off and the pendulum swings back to the other way..."Do the math, and you won't make the mistakes everyone else is making" - Don Davis

---

Subject: Re: Properly designed point-source systems are not easy to design OR install
Posted by Cuppa Joe on Thu, 20 Oct 2005 03:25:38 GMT
View Forum Message <> Reply to Message

Unfortunately, my math is weak at this time, and is something I must change to meet my goals! My interest is in a single-tier horizontal array (no stacked clusters) as a club system, with an eye toward controlled dispersion via number of arrayed traps. And, no dedicated processors! As I put it before, "shoot the audience, not the bartender." Apart from knowing which HF horns & compression drivers I wish to use, the rest is undetermined.
