Subject: Tell Us About the Array you built or are building.....
Posted by Marlboro on Thu, 22 Feb 2007 13:56:40 GMT
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I'll start.I've chosen to build a design that uses the full line of tweeters and line of woofers. I've also built it using Dayton ND20A ¾ inch neo tweeters, which I have cut the flanges to reduce comb filtering distortion to beyond 14,000hz. I have a word picture document that shows how I did that available by email. Since I'm using Neo dome tweeters, I'm also using original $17 Korean Sammi 3.5 inch mini-woofers which go down to about 100hz. The Sammi's have a 3.5 mm xmax, exceptionally large for a 3 inch speaker. The crossover for the Sammi's is 165hz and about 2600hz. I'm using 17 Sammi's per side which go from about 6 inches of the floor to about 3 inches from the ceiling. Each Sammi is encased in its own sealed 23.5 inch pvc pipe, and stuffed with 4 lb/cu foot fiberglass fill. The tweeter line is 33 inches long, and involves 30 Dayton Neos per side. I have supplemented the two floor to ceiling arrays with a separate 12 inch DVC 15 mm xmax woofer for each side. Currently its in the 2.5 cu foot vented box of my previous speaker system. But I am building a 8.5 cu foot sonotube column design for them, which will lower the bass to about 17hz.The system is Quad amped. Using RMS numbers, the tweeter amp is rated at 65 w/ch, the midrange/mid woofers amp is rated at 250 w/ch, and the 2 separate woofer amps are rated at 350 w/ch. I use a Rane 3 way electronic crossover with time delay, and a DOD constant Q equalizer. I have an Apex 220, and Macintosh Fuzzbuster sound graphing software to balance the system crossovers and equalization. The system is not Tapered. In my opinion most actual live music settings that are not in huge halls or outside exhibit wide vertical soundstage bloom, so having it in my own setting brings more of a live performance into the room. The system is designed to operate entirely in the near field for listening. Regular seating is about 9 feet from the speakers which keeps the tweeter array in the near field also.I listen mostly to classical, including organ, with some rock, folk, Celtic, and blues. I avoid Rapp and most Jazz.What does your line array look like?Marlboro

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Eric on Thu, 22 Feb 2007 18:00:16 GMT
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Great Thread Marlboro Man. My array is an attempt to recreate the Russell design that I saw at RMAF. There have been many postings regarding his lines, most folks think it sucks. I am not one of them. His articles are published and give away the recipe, as it were. I am using 25 HiVi B3S full range drivers per column. I got the drivers for aruond 5.50/ea., so it's not really surgically removing my wallet to do this. The enclosures are basic: mitered wedge shaped using MDF well braced and stuffed with glass batts all the way. The boxes are right at 2cf, but I reduced that to 1.7-ish with some more mdf in the bottom of the columns. Much better at 1.7cf. The lines are right at 7ft tall. I covered the entire baffle with 2mm closed cell foam sheet via spray adhesive, then installed the drivers. It looks great, and seals like a champ. I am currently forcing them into full range using a Behringer DEQ2496. A very cool device. The limiter and dynamic EQ are wonderful inaddition to the graphic and parametric EQ's. They do measure 20hz - 18.5khz. Now, I like them quite a bit. They look very impressive, and sound good enough for most. They really like being

right up against the wall, though. They are close to being done. I have only to attach some Sonus Faber style radiused side panels with a beautiful veneer of some sort and a metal mesh grille. And they are for sale.

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Marlboro on Thu, 22 Feb 2007 22:26:25 GMT
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Eric,What's the frequency response look like without the equalizer? 25 of them should smooth it pretty well without equalization to begin with.I would have like to use 25 of the Sammi's, but I also wanted them to be in individual sealed tubes for all the benefits of tube enclosures. That meant 4 inch tubes, and a space between the tubes.Marlboro

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Subject: Re: Tell Us About the Array you built or are building.....
Posted by Eric on Thu, 22 Feb 2007 23:08:02 GMT
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It is indeed smooth. About 10db up from 110 - 10khz. I use the EQ to actually bring the mids down a touch, the boost the u know what out of the LF. Alsmot 30db in the 20hz region. Freaky eh? Somewhat less up top. Regarding your tubes, have you checked on using cardboard ones? Like the style used in paper towels? I use them for port tubes all the time, they work rather well. Just seal them up with whatever... spray paint, etc. You can calculate your volume then squish them whichever way you want, right? Plug the ends with tapered chunks of MDF using a circle cutter on your drill press... off you go!

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Marlboro on Thu, 22 Feb 2007 23:57:45 GMT
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RE the tubes. In the array the tubes are also part of the structure of the system, and its essentially that they be very rigid, so PVC tubes work best. They are also visible.But since I'm also building the woofers using sonotubes and those are essentially pressed cardboard about 1/8 inch thick. They'll have a mdf and hardwood top and bottom looking like a greek pedestal. I'll be using a series of MDF pieces sliced and glued together with a hole cut in the center for the woofers. Marlboro

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Subject: Re: Tell Us About the Array you built or are building.....
Posted by FredT on Fri, 23 Feb 2007 12:48:18 GMT
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"My array is an attempt to recreate the Russell design that I saw at RMAF. There have been many postings regarding his lines, most folks think it sucks. I am not one of them". I heard the Russell arrays at RMAF and I don't think they suck either. I found myself drawn into the music, especially if it was highly dynamic music, and they were good with the softer stuff too. I suspect pulling them out from the wall would have enhanced the soundstage depth too. I wouldn't pay $19K for them given the other arrays that are available at and below that price, and would choose a two way with ribbon tweeters instead. But I still believe this would be a great sounding speaker for the price if you DIY it, and I've been tempted to build a pair using Tang Band drivers. Only problem is I would have to sell a pair of Theater Three Pi's to make room for them, and I can't bear to part with the Three Pi's.My present reference arrays are the Selah Audio XT-8's in a ported configuration. I have heard speakers that have greater resolution along with more authoritative and extended bass (Wilson, JM Labs, Acapella, Garshman Acoustics, etc), but I haven't heard anything I would prefer to have in my listening room more than the XT-8's.My "fun" arrays are the silly cheap ART arrays that are described elsewhere on this forum. All I can say about these is that you have to hear them to appreciate how good $350 can sound, especially with a low power tube amp.

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Rick Craig on Fri, 23 Feb 2007 12:57:49 GMT
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Going to Texas - an array with nine Accuton C82's and eight Fountek ribbons per side

Subject: Marlboro Tubes
Posted by Eric on Fri, 23 Feb 2007 15:11:52 GMT
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It's funny, this audio thing. Now that you have explained it, I really am looking for entirely impractical ways to apply the principle of using tubes. Have you heard of a material called Ardex? It's basically a plasicised PVC that shapes, carves, trowells - whatever - like buttah! Oh yeah, it's solid like concrete when it cures. Such a beautiful material. I get it at HD Supply/White Cap. Anyway, thinking of cardbord tubing up then spraying ardex on like stucco. Could be a hideously beautiful thing. Send me some drwings of your Athenian Array !

Subject: Re: Tell Us About the Array you built or are building.....

Posted by Ivor the Engine Driver on Mon, 26 Feb 2007 16:04:27 GMT
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I'm trying to develop a passive XOed version of an active XOed and equalized, open baffle array I built a few winters ago. It uses a 48-inch line of Dayton 3/4 Neo tweets(ND20FB -- the rear mount) and the old PartsExpress NSBs, with two 10-inch Peerless woofs in a push/pull configuration. I want to be able to do a direct comparison between the passive and active versions. Both are U-baffles. The active uses Behringer electronics, 2 AB International amps and one Yamaha 2200 amp. Early results lead me to believe I can make the passive version sound just as good, if not better than the active pair, with a less complex crossover than I'd anticipated, with the XOs at 500/3200. Of course, I might as well weld the speakers into place, because it won't take much movement to require a re-engineering of the crossover. Ultimately, I'd like to be able to build some room treatments and see if I can leave the XO the same, but be able to move the arrays into different rooms and achieve acceptable sound by tweaking only the various traps and diffusers.

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Ivor the Engine Driver on Mon, 26 Feb 2007 16:07:22 GMT
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p.s. I'm driving the passive arrays with a Carver M500t.

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Marlboro on Mon, 26 Feb 2007 16:20:08 GMT
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How are you dealing with the comb filter distortion that will start to kick in at about 8,000 hz by using the press-in Neo's which have a c-to-c of about 1.6 to 1.7 inches? 13560/1.6= 8475hzI know somebody who did that and found that his speakers had a distinct lack of air and a wa-wa feeling to the upper frequencies.Marlboro

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Ivor the Engine Driver on Mon, 26 Feb 2007 16:41:24 GMT
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I'm using the rear flange neos. Trimming the flange bumps the theoretical combing problem to around 9500, IIRC. In practice, though, I've never heard it when not doing freq sweeps. This could be due to several factors: the steep roll-off in my hearing above 10k due to a lifetime of exposure

to rock concerts and unmuffled race cars (I think a three-rotor Mazda GTP car was the tipping point); the relatively low frequencies in the music I usually listen to (rock/blues); and because I am almost always doing something and moving around when listening to the arrays, which are in the heated portion of my shop.

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Marlboro on Mon, 26 Feb 2007 19:16:02 GMT
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There aren't any flanges to trim on the rear entrance Neo's. So let me get this right, you can take me to task for some minor semantic violation of the Griffin paper, which I made more clear in my next post. But in your next post you can ignore one of the substantial main tenets of the Griffin paper which involves the effect of vertical comb distortion by simply saying that you don't care. And you can say that you are trying to make your next design better than the previous one. We sure wouldn't want the un-informed here to get the idea that we can ignore the comb filter distortion issue. I should think that you ignoring of this issue is a much larger violation than mine.I'm sure you won't see it that way; however, I'll be surely interested in your take on the matter when what goes around comes around. Will you take the same level of responsiblity for your gaff for the newbies that you demand of me?Marlboro

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Subject: Re: Tell Us About the Array you built or are building.....
Posted by Ivor the Engine Driver on Mon, 26 Feb 2007 19:34:40 GMT
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> There aren't any flanges to trim on the rear entrance Neo's. You are incorrect. Go here: http://www.partsexpress.com/pe/showdetl.cfm?&Partnumber=275-035> So let me get this right, you can take me > to task for some minor semantic violation of the Griffin paperUh, no, I didn't. I took you to task because you said that it can't be an array if it doesn't couple to the floor and celing. That's just silly.> But in your next post you can ignore one of the substantial > main tenets of the Griffin paper which involves the effect of > vertical comb distortion by simply saying that you don't care.I said I don't care because in my experience I haven't had a problem with it. My alignment causes a theoretical combing problem at slightly less than 10k. I have heard nulls when playing around with a frequency generator. I have never heard one when listening to music. YMMV for any number of reasons. But since these are my speakers and my ears, I don't care what you hear. I care only about what I hear.> We sure wouldn't want the un-informed here to get the idea > that we can ignore the comb filter distortion issue. Of course we shouldn't ignore it. But it's a far more complex issue in practicality that simply using a simple calculation and proclaiming the results to be cast in stone. Griffin's paper discusses this very subject on page 13.> Will you take the same level of responsiblity for your > gaff for the newbies that you demand of me?The only mistake I've made is arguing with a self-proclaimed expert who can't admit that he made a simple and dumb mistake in a definition, and who then offers lies and strawman arguments to

defend himself.

Subject: Humor: the best medicine: Thanks
Posted by Marlboro on Mon, 26 Feb 2007 21:01:59 GMT
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Your post was every bit as humorous as I expected it to be. Thanks for lightening my day. You must be great fun to live with!Marlboro

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Subject: So, you're conceding my points? -nt-
Posted by Ivor the Engine Driver on Mon, 26 Feb 2007 21:51:44 GMT
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Subject: Rah Rah Bis Boom Bah!
Posted by Marlboro on Mon, 26 Feb 2007 22:27:11 GMT
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Just fun to laugh. My father was like you. I know all about your "points". I thought you were serious at first, but now I see that its just your way of being funny! And now you bring up Oblio and the Pointless Forest. How astute!Nice work.....Took a while, but I finally got the joke! Too subtle af first for me. Its this medium where there are no expressions. You have to admit to sounding pretty serious.Marlboro

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Subject: wiki definition
Posted by pauly on Tue, 27 Feb 2007 00:48:21 GMT
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http://en.wikipedia.org/wiki/Troll_%28Internet%29
wiki

Subject: Who knew?
Posted by Ivor the Engine Driver on Tue, 27 Feb 2007 14:17:05 GMT
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Wow. Who knew that building arrays would attrack so many infantile retards? I apologize profusely for my presences. I thought this forum was for adults. My bad!!!

Subject: ART Rules
Posted by admin on Wed, 28 Feb 2007 15:06:09 GMT
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This forum is for adults. Stick with facts, or perhaps hypothesis. Limit your comments to statements about ideas, technologies, products, music, whatever. One can attack or defend an idea here, but please don't attack a person.
ART Rules

Subject: Re: ART Rules
Posted by Ivor the Engine Driver on Wed, 28 Feb 2007 16:51:11 GMT
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Let's review, shall we? Marlboro insults poster. Marlboro issues bogus definition of an array. I call him on it. Marlboro then acts like total jerk to me, avoiding issues, spewing ad hominem attacks like he's a charter membe rof the Swift Boat Society. Enter you. You pull on your jackboots and stalk into the forum censoriously waving the ART Rules (capitalized so I could understand their importance, and probably carved on stone tablets, too). You attack and threaten me, but let the jerk off without even a warning ticket.No, sorry, but an adult forum this isn't.

Subject: Re: ART Rules
Posted by admin on Wed, 28 Feb 2007 20:43:09 GMT
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You weren't being singled out. The rules page was posted as a reminder to everyone.

Subject: Re: Tell Us About the Array you built or are building.....

Posted by hot.rod.audio on Thu, 01 Mar 2007 15:11:43 GMT
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Still evolving but: I'm going minimalist / vintage with it's foundation the old vintage KLH 4.5 inch full range drivers found in the models 14, 19, etc. paper cone, cloth surround, BIG alnico magnet & motor structure. I'm mounting them open baffle on a fairly narrow baffle (12.5 X 48 inches). eight per side. For the low-end, I'm staying with vintage KLH: a single 60's vintage Model 6 per side, stuffed in the corners of the room to (somewhat) match the efficiency of the array. For the high-end, I'm using a NOS pair of Radio Shack dual radial horn tweeters. Crossover is VERY minimal; seated listening posiition is only about 6 - 8 feet away, so comb filtering isn't too big of a deal. I'm running off tubes: either a vintage magnavox EL84 PP amp, or Sherwood S-8000 (7868 PP). If I REALLY want to shake the house (movie night) I run them off my Marantz 1152DC (125 wpc @ 4 ohms).The sound has impressed anyone who has listened to them; very revealing. I feel the OB design really helps with the transparency. They sound best about 2 feet from the back wall. I eventually want to implement an active crossover w/ digital EQ for full flexibility and optimization. The klh FR drivers should start comb filtering around 1200-2400 Hz, although I havent measured them. . . they sound very good to my ears. Will try and do a full ribbon tweeter array eventually also, as I know the little Ratshack tweeter is a compromise . . .

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Stephen Narayan on Sun, 01 Apr 2007 05:30:48 GMT
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A friend and I are building a 6 woofer and 2 ribbon array using two Newform Research R30 ribbons and 6 Scan Speak 18W/8545 drivers per channel. Plan right now is to have the overall height to 72" and incorporate 6 mids, spaced 180mm ctc. The ribbons will be positioned to the side similar to Brad Virgil's original R45 ribbons in the Excelarray. Instead of a base we will utilize a wood or marble plinth.I've been thinking of going with a front ported design of 2 modular units that can be stacked up, with 3 8545 drivers in each module. Ports would be situated so that they would be located one at the top and one at the bottom of the assembled setup.Project has been delayed so I could pick up a new source, preamp and amplifiers so that I can spare those from my current system and relegate them to the project which would be built at my friends place. Also I'll be picking up some R45 ribbons and extra 8545 drivers next month which would actually give me enough for possibly building a rear channel R645 for rear channel use or in another room.

Subject: What Crossover Frequency?
Posted by Marlboro on Sun, 01 Apr 2007 12:40:40 GMT
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What crossover fcrequency are you going to use? and what slope of the crossover? passive or electronic?Marlboro

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Marlboro on Sun, 01 Apr 2007 13:35:22 GMT
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If you put only six of these woofers in a 72 inch line array, they are going to be 12 center to center inches apart. This means that to avoid serious and very audible comb filter distortion, you will need to cross to your tweeters at about 1130hz.I couldn't find any specs on them but i guess its within the realm of possibility that they do go down that low since the B&G ribbon lines go to 600hz.How much is the total cost for this monster?Marlboro

Subject: Re: Tell Us About the Array you built or are building.....
Posted by Stephen Narayan on Fri, 27 Apr 2007 02:07:25 GMT
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They recommend 1000 hz at 6db/octave, but I've seen some systems made with them crossing over at as low as 800-900 hz if using a steeper slope.I've got most of the items used. So far I'm in at about $1500 for the drivers alone, still need another pair of 30" ribbons so that will add another $850 or so, crossover components would be extra on top of all of that as would cabinet construction.

Subject: Re: Tell Us About the Array you built or are building.....
Posted by jamesk on Sun, 10 Jun 2007 09:45:10 GMT
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Geez Rick. How do you move that much weight around and not break those ceramic drivers? I want pics of that beauty. It must sound phenomenal.