
Subject: About to start building my ART Arrays
Posted by [dbishopbliss](#) on Wed, 14 Oct 2009 19:19:27 GMT
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I've had the components since January and I am about to start building the enclosures this weekend.

I noticed Fred built a pair with centered drivers. Is there an advantage doing it this way?

I also saw that there is an updated crossover. I will go with the original crossover to begin with because I have the parts, but may look into building the alternative for comparison.

Anything else I should consider before I begin?

Thanks in advance.

David

Subject: Re: About to start building my ART Arrays
Posted by [Marlboro](#) on Thu, 15 Oct 2009 04:10:08 GMT
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What do you mean by centered drivers?

Marlboro

Subject: Re: About to start building my ART Arrays
Posted by [AudioFred](#) on Thu, 15 Oct 2009 14:20:48 GMT
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For the most recent pair I didn't offset the drivers on the front baffle. Most DIY speaker builders offset the drivers to reduce baffle edge diffraction, while most commercial speaker makers don't because of the added production and distribution costs. I've found it doesn't make enough difference to matter, and it's simpler and more aesthetically pleasing with them positioned on the center line.

Subject: Re: About to start building my ART Arrays
Posted by [Marlboro](#) on Thu, 15 Oct 2009 15:12:50 GMT
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So.... Fred,

We're talking about line arrays without a tweeter line? With a tweeter line, the center is an imaginary line down the edge of the 3 inch midrange speaker in my speakers, since I have a tweeter line.

I seem to think that I read somewhere that these baffle adjustments only make a difference for point source speakers but when you start lining up more than 8 speakers in a line source that the issues dissolve to smaller and smaller db loss until its below 1 db which is not hearable in music(maybe in single tones though).

Isn't here a piece of software that shows the loss with different numbers of speakers due to baffle effects?

Marlboro

Subject: Re: About to start building my ART Arrays
Posted by [AudioFred](#) on Fri, 16 Oct 2009 18:08:29 GMT
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Marlboro wrote on Thu, 15 October 2009 10:12So.... Fred,

We're talking about line arrays without a tweeter line?
Marlboro

Yes, this design has more compromises than most to get the parts cost down to \$285. A tweeter array just wasn't possible. A short array of Dayton 3/4" neo's would have been nice, but that wouldn't work because the crossover would have to be too high for the 5.25" woofers. A single Fountek ribbon would have been nice too, but that would have increased the cost by about 50%.

http://fredt300b.smugmug.com/Hobbies/Speakers/132721_wacsQ#595276572_kM2i2

Subject: Re: About to start building my ART Arrays
Posted by [AudioFred](#) on Tue, 20 Oct 2009 21:02:28 GMT
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The Art Array isn't the only "budget" line array to incorporate a single dome tweeter.

<http://www.gryphon-audio.dk/content/product.asp?ProductID=27>

Seriously, it's hard to imagine that a company would design such an expensive speaker and use a single dome tweeter instead of a tweeter array.

Subject: Re: About to start building my ART Arrays
Posted by [Marlboro](#) on Wed, 21 Oct 2009 14:06:22 GMT

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Fred,

Only the bass unit is a line array with 8 inch woofers and a heavy duty equalizer. The other speaker that looks like an array is NOT. It is an wmmtmmw where the "w" is a mid bass unit, and the "t" is a revelator tweeter with a "horn" type waveguide.

"...with four 5" Gryphon midbass drivers (two at the top and two at the bottom) and four of the 5" Gryphon midrange drivers originally developed for the Cantata (two directly above and two directly below the central high frequency driver).

"The legendary Scan Speak Revelator ring radiator high-frequency driver is modified with a 1 kg aluminum housing, designed by Gryphon for perfect time alignment and minimal diffraction."

Marlboro

Subject: Re: About to start building my ART Arrays
Posted by [AudioFred](#) on Wed, 21 Oct 2009 15:58:19 GMT
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Got it. Too bad they didn't build a line array instead.

Subject: Re: About to start building my ART Arrays
Posted by [mercbravo1](#) on Thu, 22 Oct 2009 19:37:12 GMT
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Hello all.

I'm new to the forum and to speaker building, but excited about the new hobby. I just completed the Zigmahornets as my first projet, and am now looking at tackling the ART Arrays. Like Fred I prefer the drivers centered and will also recess them into the baffle.

Fred, you mentioned on your smugmug pages adding an updated crossover designed by Pete Schumacher. Would you mind sharing the schematic? I've not built a crossover before, so this will be a new challenge.

Thank you

Nick

Subject: Re: About to start building my ART Arrays
Posted by [AudioFred](#) on Thu, 22 Oct 2009 20:31:01 GMT
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You'll find the updated crossover schematic in this thread:
<http://techtalk.parts-express.com/showthread.php?t=209376>

The tweeter circuit includes a 1.2 ohm series resistor. I found a three or four ohm sounds better. I'm using a four ohm.

Subject: Re: About to start building my ART Arrays
Posted by [AudioFred](#) on Thu, 22 Oct 2009 20:34:17 GMT
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If anybody would like to build a pair of these speakers, Scott Placke has generously offered to supply all the parts at the OEM price, which is slightly less than \$300. You will need to call Scott at PE and tell him you want the RMAF Art Array "kit". There is no "kit", and the Art Arrays have nothing to do with the RMAF, but that's where I see Scott every year, and if you say "Fred's RMAF Art Array Kit" he'll know what you're talking about.

Here's the parts list:

Sixteen #295-301 5.25" Dayton Classic woofers
Two #264-578 Vifa DX-25 tweeters
Two #255-206 0.15mH 18ga air core inductors
Two #255-266 2.0mH 18ga air core inductors
Two #027-350 33uF electrolytic caps
Two #027-408 Dayton 0.68uF poly caps
Two #027-418 Dayton 3.0uF poly caps
Two #027-426 Dayton 8.2uF poly caps
Two #027-434 Dayton 18uF poly caps
Two #027-440 Dayton 30uF poly caps
One #095-282 pack .205 quick disconnects
One #095-286 pack .110 quick disconnects
One #100-116 50ft 16ga speaker wire
Two #260-303 speaker terminals
One #081-435 pack of 100 #6 screws
Two #004-3 three ohm resistors
Two #004-12.5 resistors

The 33uF electrolytic goes in the woofer zobel, the 30uF and the 3uF metallized poly caps are paralleled to form the required 33uF in the tweeter circuit. The schematic also calls for a 1.2 ohm series resistor in the tweeter circuit, but I found the tweeter was too bright and substituted a 3 ohm. The 12.5 ohm is used instead of the 15 ohm in Pete's schematic - this value isn't critical. To keep things simple for Scott I request that you order this with no substitutions.

Subject: Re: About to start building my ART Arrays
Posted by [mercbravo1](#) on Fri, 23 Oct 2009 13:39:28 GMT
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Fred,

Thank you for the information. It's certainly a bonus to get the parts even cheaper.

On a separate note, I was also intrigued by the Fredarrays you built and wondered how they stacked up against the ART Arrays? I wouldn't mind trying to build either one (assuming you don't mind someone building your arrays), but would like to hear your thoughts on if one was superior to the other.

Thanks

Nick

Subject: Re: About to start building my ART Arrays
Posted by [AudioFred](#) on Fri, 23 Oct 2009 14:07:37 GMT
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mercbravo1 wrote on Fri, 23 October 2009 08:39 Fred,
I was also intrigued by the Fredarrays you built and wondered how they stacked up against the ART Arrays? I wouldn't mind trying to build either one (assuming you don't mind someone building your arrays), but would like to hear your thoughts on if one was superior to the other.

Thanks

Nick

The Art Arrays are much better. The FredArrays were built using Silver Flute woofers and an MCM titanium dome tweeter. The tweeter had to be crossed at a relatively high frequency, and it never blended with the woofers as well as I would have liked. Also, the Dayton woofers are quite a bit less expensive than the Silver Flutes, which now sell for about \$19ea versus \$10 for the Daytons.

Subject: One enclosure glued up!
Posted by [dbishopbliss](#) on Wed, 04 Nov 2009 12:54:20 GMT
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I got one of the enclosures glued up last night. 22 clamps!!!

Now I need to install the insulation and the drivers. Can't wait to hear these guys.

Subject: Re: One enclosure glued up!
Posted by [dbishopbliss](#) on Tue, 10 Nov 2009 12:37:33 GMT
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Here's a photo of the glue up.

File Attachments

1) [p_00017_640_480.gif](#), downloaded 8405 times

Subject: Re: One enclosure glued up!

Posted by [dbishopbliss](#) on Fri, 13 Nov 2009 13:06:36 GMT

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Here is a cell phone photo of one cabinet completed

File Attachments

1) [ArtArrayBlack.jpg](#), downloaded 8529 times

Subject: Re: One enclosure glued up!

Posted by [Wayne Parham](#) on Fri, 13 Nov 2009 15:22:03 GMT

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Very nice looking!

Subject: Link to more pictures

Posted by [dbishopbliss](#) on Fri, 20 Nov 2009 19:20:26 GMT

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Here's a link to some more pictures and one of the attendee's impressions of the art arrays.

http://829b.com/b_2009_11.aspx

Subject: Re: Link to more pictures

Posted by [Wayne Parham](#) on Sat, 21 Nov 2009 03:49:25 GMT

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Super cool! Looks like a good time was had by all. I really love those little local get-togethers. You get a fair amount of time to check out the gear, and some good fun with good friends. Can't beat that!

