Subject: The "Tallerays"
Posted by FredT on Thu, 30 Aug 2007 13:00:47 GMT
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So named because at 7'4" they're taller than any other speakers I've built. They're extreme budget (about $100/ea) dipole line arrays, first described by Zobsky on the Audio Circles OB forum. Each speaker houses 14 Madisound $3 Foster buyout extended range midwoofers and one Eminence ASD-1001 compression driver with a Dayton waveguide. The woofers run full range to their natural 5khz rolloff; the tweeters use a 2nd order crossover.They have several good qualities including cheap, easy to build, friendly to low power SET tube amps (7 ohm impedance with no crossover in the woofer signal path, about 96dB sensitivity) and seveal shortcomings including somewhat opaque midrange from the $3 drivers, little output below 70hz (need a subwoofer to sound right) and limited hf extension of the ASD-1001 driver. Nobody will confuse these with high end speakers, but they don't do anything outrageously bad either.Now imagine the look of surprise and pleasure on your wife's face as you carry a pair of these into the house unannounced.
The "Tallerays"

Subject: Re: The "Tallerays"
Posted by Wayne Parham on Thu, 30 Aug 2007 13:37:24 GMT
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Ooooh, cool, Fred. I wondered what you had been up to 'cause I hadn't seen you around in a while. Now I know!Open baffle arrays. Cool! How do you think they compare with your ART Arrays?

Subject: Re: The "Tallerays"
Posted by FredT on Thu, 30 Aug 2007 16:28:14 GMT
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Thanks. I prefer the sound of the ART Arrays. They have greater bass extension and impact, and the midrange of the Dayton 5.25" drivers is cleaner than the Fosters. Also, the comparablu priced Vifa DX25 tweeter has greater resolution and extension than the Eminence ISD-1001. The Vifa is just sensitive enough for use in the ART Arrays; it probably wouldn't be sensitive enough for use with the Tallerays, but I intend to try it with only the 10uF cap and the shunt resistor, as it is used in the ART Arrays and the Studio One Pi speakers, to hear how it sounds. If it works ok it would upgrade the Tallerays' sound a notch or two. The primary avantange of the Tallerays is they are really cheap to build, and since no box is required, they are an especially easy project for a beginner. But don't misinterpret what I'm saying - these speakers don't sound bad at all. They are sensitive and are very dynamic, and their soundstage is really big.

Subject: Re: The "Tallerays"
Posted by Wayne Parham on Thu, 30 Aug 2007 19:05:08 GMT
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That's pretty cool, Fred. Thanks for sharing it with us here. Good way to get exposed to open baffle and arrays at the same time.

Subject: Re: The "Tallerays"
Posted by Bill Wassilak on Fri, 31 Aug 2007 16:12:47 GMT
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Very cool Fred, that's one thing I notice about line arrays, they have a very big sound stage.

Subject: Re: "Sound Stage Size"
Posted by granch on Sat, 01 Sep 2007 01:24:03 GMT
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Since I never could tell by listening which foot of the centipede was arthritic at 100 ft distance, I was never into that region of audio appreciation. But at my low level of sophistication, I believe that "sound stage size" is related to the relative area of the sound source compared to the listening environment. One of my early attempts at "high fi" which I may have described hereabouts, started with an EV-SP12B in a copy cat EV rear horn loaded corner cabinet I built and which I later stacked on top of an apartment built Carvin (? the one with the big exponential V in the front panel) with a cheap but decent GE speaker in it. All in mono, of course, in the days before stereo. This made a huge pile of radiating surface in your average corner. Rest was state of the art with Weathers FM pickup and home built "Williamson" (semi-triode) amp and home built preamp, all triodes(?). Anyhow the sense of Huge sound stage was very strong with this system. If you usually sit back in the cheap seats at the symphony, you don't get much sense of left-right at the live performance. With the large source (either my "binary array" or this new one) your speakers are dominating a very large sector of space which would otherwise be radiating mangled room reflected sound. I think that may account for the large sound stage phenomena, even in mono, With it comes what I think folks also refer to as increased "presence".

Subject: Re: The "Tallerays"
Posted by Steven Homrighausen on Fri, 07 Sep 2007 02:14:06 GMT
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I was trying to think of something to do with the cheap drivers available these days (the Foster or the Onkyo from Madisound). I didn't even think about open baffle (about the only way to use the fosters).It looks like you set them up with a bit of a taper 4,3,T,3,4. Which waveguide did you use? I see it in the picture, but I'm not sure which model it is.Why did you choose to use so many of the foster drivers - was it just so you could get the taper? I had thought about using 9 or possibly 12.

Subject: Re: The "Tallerays"
Posted by FredT on Fri, 07 Sep 2007 09:05:47 GMT
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I'm still surprised that the Foster drivers sound as good as they do connected direct to the amp with no filtering at all. They don't have the midrange clarity of better drivers like the Dayton Reference series, but they don't do anything that would be distracting, like a breakup spike at 5 to 7khz. I have no idea why this is so, because I saw a PDF of their response and it showed a fairly pronounced spike at these frequencies.The waveguide is the 7" elliptical from Parts Express, #270-316. I used fourteen drivers for the worst possible reason; I wanted people to gasp in astonishment (WOW!!!) when they first saw it. I succeeded, but nine, ten or twelve would be a more practical choice, both in terms of a more manageable size and the fact that 7'4" is too tall for the typical listening room where your listening chair is less than 10' from the speakers. If you wanted the woofer array to be arranged symmetrically above and below the tweeter you would have to use ten (3-3-4, with the four consisting of the top two and the bottom two woofers, giving you 8.7 ohms nominal impedance) or twelve (3-3-3-3 or 4-4-4), yielding a nominal impedance of 6 ohms or 10.7 ohms.
Talleray Pictures

Subject: Re: The "Tallerays"
Posted by zobsky on Fri, 07 Sep 2007 18:07:57 GMT
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Fred wrote" I have no idea why this is so, because I saw a PDF of their response and it showed a fairly pronounced spike at these frequencies."That's the line array interactions at work dragging the response down with increasing frequencies. In particular, that's why I chose this driver when I was searching for cheap drivers (the raw driver response has a bit of a tilt in the response, which is brought down when stacked in an array, allowing me to cross over higher to cheap tweeters)

Subject: Re: The "Tallerays"
Posted by Shane on Sun, 09 Sep 2007 01:55:51 GMT

I keep showing pics of the ART arrays to my wife. Then I showed her these. Surprise and pleasure would not be the expression I would receive!!!I think I'm gonna wait to build the ART arrays until we have purchased a new home so I can have a semi dedicated listening room to put them in. Wifey has pretty much nixed the idea of them in the living room. Great thing about the ART's is that I have all the pieces so I can build them whenever!

Subject: Wife Approval Factor
Posted by FredT on Sun, 09 Sep 2007 09:09:54 GMT

Is this what she looked like when she responded to your suggestion?
 Reluctant Wife