Subject: The Ultimate Array Conclusions
Posted by jphaggar on Mon, 19 May 2008 14:43:10 GMT
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Everybody agreed on the 3 way array versus the 2 way.Almost everybody agreed on using ribbon tweeters versus domes .Nearly everybody agreed to use smaller than 5" mid/bass Approx everybody agreed to active digital xover and room correction (DEQX) .Imperatively triamplification is necessary.Next step is the choice of drivers :Could we have suggestions that almost everybody would agree upon?This could be the Ultimate Array !!!!!!What are forums for ?I could start building it tomorrow !! Everybody would be welcome to come and have a listen (Alexandria , Egypt).JPH

Subject: room size
Posted by lcholke on Mon, 19 May 2008 16:11:46 GMT
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Hi JPH,The room size will affect the ultimate choice. I like open baffle dipole arrangements, but if the room is to small they are hard to place and the WAF is low.The ultimate array needs an ultimate listening space! I attended a demonstration in a room that was tuned. It seemed that they deadened everything first. Then used resonators to flatten out the bass. And finished with bringing back the highs to taste with diffuse reflectors. When I listened to someone talking I could tell where exactly they were standing and I could hear them very clearly. -Linc

Subject: Re: The Ultimate Array Conclusions
Posted by Marlboro on Mon, 19 May 2008 16:36:01 GMT
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1. I still prefer domes, but quite honestly the only choice you have is the Dayton Neo20. If you want to go more expensive, then there are simply no other 3/4 inch neo domes that can have their flanges cut tight enough to make the c-to-c requirements, and none of the non-neos will have a magnet structure strong enough to be small enough. In groups of 30, though, they are simply amazing.If I can't use domes then the B&G Neo is the only thing I would touch.2. If you want a 3 inch midrange, since the SAMMI's are no longer available I don't think anyone has a choice other than the HiVi M3N 3in aluminum/magnesium which has an xmax of 3.0 mm and 90-8k.If you go up to 4 inch, then I would go with the Dayton RS 100, 4 ohm, hands down.3. Electronic crossovers can be digital or analog. Unless you need to tailor your system in unusual ways such as a 48db or 96 db crossover, you can get by with the workhorse Rane models. I think the cylindrical wave of the nearfield(provided you are in the nearfield) leaves the need for room corrections in the dust.4. Tri amping is easy to do. My personal recommendation is, despite the efficiency of the array allowing smaller amps, to have the reserve you might need, and not to go for less that 60 watts rms/ch for the tweeters, 150 watts rms/ch, for the mids, and assuming that

you are using a pair of hot 12 inch woofers for the bass, not less that 350 rms watts/ch for them.Marlboro

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Subject: Re: The Ultimate Array Conclusions
Posted by Anonymous on Mon, 19 May 2008 20:17:37 GMT
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Is Ultimate the top? What if you wanted more? :lol:I have some ideas, but prepare to drop $35k - $50k ona pair of towers. This is email only discussion.

Subject: NO, NO, NO: you have to tell us upfront!
Posted by Marlboro on Mon, 19 May 2008 20:47:14 GMT
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Thy,You can't tantalize us with a $50K DIY system, and then take it to email.I've heard of people who put together amplification systems where there was one separated op-amp for each individual speaker: a 60 amp line for the tweeters, a 34 amp line for the mids, and a bi amp line for the woofers, in my case. Someone here I think actually talked to me about that and said the sound in the limited way they put it together was simply astounding.There are things you can do with the CD player. Tell us what you are talking about!

Subject: Re: The Ultimate Array Conclusions
Posted by jphaggar on Tue, 20 May 2008 08:26:38 GMT
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Cool Cool Let's put some garlic in this forum and let everybody taste it .Waiting for much more details .This is brainstorming and innovation let us see where this will lead us all, and hopefully the pros are getting involved with us .JPH

Subject: Nota Bene
Posted by jphaggar on Tue, 20 May 2008 08:32:48 GMT
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Just a small comment about Arrays :I've been to the Montreal Sound and image festival for four

days listeneing to systems from 1000 $ to 200000 $ and nothing under the 40000 $ tag beat my system with the arrays .I think one should only think line ArraysJPH

Subject: start with $5K of NdFeB magnets and 1005 steel
Posted by Scooter on Tue, 20 May 2008 21:18:54 GMT
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The positive reviews on hi-tech Apogee re-makes would convince me to start with $5K of NdFeB magnets and 1005 steel and DIY some 8' high dipole midrange and tweeter ribbons, plus construct a dipole line array of 15" woofers for bass....a better alternative to the Apogee single-end drive bass panels.DIY Class-A amps that can direct drive each ribbon without step-up transformers.Ultimate 3-way Dipole Linesource

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Subject: If shooting for "The Ultimate"...
Posted by Darkmoebius on Tue, 20 May 2008 22:35:23 GMT
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I guess super expensive drivers are not out of the question, here a few candidates. I have no idea how they would perform, but their graphs look awfully nice.For midrange, how about the ACCUTON C²79-6 ceramic driver. Covers 200Hz-4kHz and is intended for 1.5L-4.0L sealed enclosures. Low resonance frequency allows first order filtering from 200 to 4000 Hz.Or, the Monacor SPH-135KEP. It's a 5.25" driver, but is ruler-flat from 120Hz-5kHz w/ an Xmax of 3.25mmIt's smaller brother, the 5" Monacor SPH-102KEP has nearly as deep LF, but has a rising response above 1.5kHz. It has a much lower Xmax of 1mm, so lows might be a problem. Though, it is intended for a 3.7L sealed box.Audio Technology (Skaaning) 4" Flex Unit 4 H 52 06 13. It's got a 4mm Xmax and a pretty flat from 100Hz-4.5kHz. Peerless 4"(830872) High Definition Sound (HDS) NOMEX. FS 85Hz and 2.5mm Xmax.The Peerless 832873 goes a little deeper w/ an FS 58.6Hz and Xmax of 3.5mm

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Subject: Forgot the obvious - CSS WR125ST (14 ohms)
Posted by Darkmoebius on Wed, 21 May 2008 00:27:23 GMT
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16 ohm version of the first 4.5" speaker with patented XBL^2 motor technology and truncated for closer driver spacing.Parameters are Fs: 65 Hz, Qms: 3.98, Qes: 0.77, Qts: 0.65, Vas: 5.8L, Sd: 57 cm^2, Xmax: 6mm one way, Re: 14.1 Ohms, Le: 0.65 mH, BL:5.7 N/A, Mms: 4.5 grams, SPL: 85.8 dB @ 1W, 1m.Spec sheet (pdf)

Subject: Re: Forgot the obvious - CSS WR125ST (14 ohms)
Posted by FredT on Wed, 21 May 2008 15:14:22 GMT
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I agree with darkmoebius. This is a versitile and good sounding driver. It obviously isn't expensive enough to impress the audiosnobs of the world, but its midrange clarity, lack of breakup coloration, and ability to maintain its composure at high volume levels places it up there with some of the best.Jim Griffin had an array using twelve of the FR125SR version of this driver with an array of eight Aurum Cantus tweeters at the 2006 Lone Star Audio Fest. It was bi amplified using a DEQX preamp/crossover. I had no need for another line array at the time or it would have gone home with me. He also had a pair of bipole speakers using the eight ohm full range version of this driver, and I was impressed enough with the its sound to build a pair of those.

Subject: You men, like this?
Posted by Darkmoebius on Thu, 22 May 2008 10:21:13 GMT
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This guy's DIY project is ultra-extreme!
60" Ribbon w/TL Loaded Extremis Hybrid

Subject: Re: You men, like this?
Posted by Anonymous on Thu, 22 May 2008 22:06:03 GMT
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DIY rules.But I prefer a different tweeter technology if you want anextreme ultimate system. I don't even like the system design goals,ie operating the driver down to a few hundred hertz. While thisis a great DIY project, be open to it's limitations.Some of the specs that interest me are average, ie 1/2 Tesla gapplus "According to Linesource's effeciency formula, they will beright at 98 dB/W with 8 micron foil". This is boring specs.You can find affordable commercial ribbons with 1T gap and highersensitivity right now. Plus, if you do parallel elements and canlive with a line array vs. line source, as low as 1.5khz - 2khz crossover point, it would beat out this project pretty badly.Last, I would never use low powered amplifiers to drive an ultimatesound system.

Subject: 103db/watt midrange and tweeter ribbons..bass line array
Posted by Scooter on Fri, 23 May 2008 06:04:00 GMT
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A 0.4" wide x 90" long 5.8u Al tweeter ribbon with 1T could reach 103 db/wattA 3" wide x 90" long 8u Al midrange riggon with 0.6T could reach 103 db/wattCustom DIY bridge topology amps would be necessary to direct drive the 0.1-0.2 ohm midrange ribbon. 32 watts Class-A would seem adequate, and a high current delivery challengeFive 15" woofers in parallel could match the 103 db/watt of the ribbons. A high 0.94 Qts like the Lambda Dipole woofers would save some baffle boost power. Should reach below 30Hz in most rooms.Since this is Ultimate...an array of sealed bipole woofer stacked pairs would pressurize the room for 16Hz-30Hz.

Subject: ULTIMATE requires both midrange and tweeter ribbons + bass line array
Posted by Scooter on Fri, 23 May 2008 06:15:07 GMT
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ULTIMATE requires both 90" tall midrange and tweeter ribbons + bass line array of five 15" woofers. ULTIMATE requires a 40K Hz tweeter ribbon.ULTIMATE requires a full vocal range midrange ribbon.

Subject: Re: 103db/watt midrange and tweeter ribbons..bass line array
Posted by Anonymous on Fri, 23 May 2008 08:54:26 GMT
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Meh performance. /lol

Subject: Re: ULTIMATE requires both midrange and tweeter ribbons + bass line array
Posted by Marlboro on Tue, 27 May 2008 06:11:14 GMT
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I can't hear above 14khz.
