Subject: Equalization in Arrays
Posted by Brent S on Tue, 26 Jul 2005 11:49:57 GMT
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Are people using Equalization in arrays very much? How about active crossovers?It would seem that when one is putting a bunch of small drivers together, all of which are not really very expensive individually, that equalization would be a central part of the equation. But I never hear anything about it.

Subject: Re: Equalization in Arrays
Posted by Anonymous on Tue, 26 Jul 2005 15:32:52 GMT
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Yes.For the NSB/PT2 array {4" midwoofers w/planer tweeters) I'm using anactive setup with the Behringer DCX2496. The first thing I do istune everything by ear using common sense. I sweep the activecrossover range and listen to the music to find the sweet spot Ilike. I also do individual driver tests where I only listen totweeters and then only listen to the midrange so see if I can hearproblems in this range of frequencies that I selected to make surethere is nothing bad.After doing all these listening tests, I prefered a PT2 crossoverfrequency between 1.5khz - 2khz using the 48dB slope. The steeperslope filters out midrange crud and improves the image.For the NSB high pass I found that 65hz using the 48dB slope workednice. I just sweeped the range and listened to the bass and notedcone excursion at high power to make sure I'm within safety range ofthe drivers.I set the EQ depending on mood, genre of music, and per individualCD as bad recordings need to be fixed. I'll use a simple example.For jazz/vocals, I cut the ~150hz region on the midrange output ~6dB as ported NSB's are giving me crazy midbass where things fallsoff the TV. The Radio Shack meter peaked at 126dB on a bass guitarlistening test. The tweeter output I boost 6dB @ 8khz shelving high pass. This givesme that crispy top end I like when listening to cymbals.To smooth out the midrange sound, I use an input EQ using a Q of 1and cut the 1khz band about 4.5 to 6dB. 32 midrange drivers is alotof midrange sound and the room is small so I need to tame this downa little.Next, I adjust the output levels because I'm using two differentamplifiers, one a home amp, the other a proamp so I need to adjustthe midrange level in relation to the tweeter level. In my caseI need to adjust the midrange level -6dB to match the PT2. Last, I added delay to one channel, about 15mS to add 'concert hall'effect which gives the music depth. Some genres of music do betterwith no more than 25mS delay.For death metal music where headbanging is required, I set theEQ closer to 'zero'. I turn off the midbass EQ, turn off the tweeterEQ, adjust the input EQ to -3dB cut, adjust the midrange levelanywhere from zero to -3dB. The midbass boom is appreciated in thisgenre of music.

Subject: Re: Equalization in Arrays
Posted by Brent S on Tue, 26 Jul 2005 18:10:34 GMT
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What kind of equalizer should I use? How much should I pay? Have you ever bought anything on ebay?

Subject: Re: Equalization in Arrays
Posted by Anonymous on Tue, 26 Jul 2005 19:29:57 GMT
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>>What kind of equalizer should I use?The classic graphic EQ is nice. More bands {sliders} = moretweakability and it's more of a general purpose EQ. The parametricEQ is more specialized, usually used to fix specific problem areas.Both work.The next issue is whether you buy home audio gear or pro audiogear. You have to figure out your front end electronics aspro audio interfaces a little different than home audio. If you havehome audio gear try looking for affordable home audio EQ's. I chose the pro audio route because Behringer is hard to beat from a price/performance point of view. You just have to design your frontend around pro audio.>>How much should I pay? The DCX2496 is a pro audio piece of equipment, it's a digitalcrossover with some parametric EQ and other stuff. Cost onthese is $250 shipped. The DEQ2496 is specifically an EQ. I haven'tchecked home audio gear recently so I can't point you in a directionother than maybe http://www.audiocontrol.com>>Have you ever bought anything on ebay? Buy from a reputable seller.

Subject: Re: Equalization in Arrays
Posted by Bill Fitzmaurice on Wed, 27 Jul 2005 20:48:16 GMT
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One thing I've found with these cheapy drivers is that they have very good response characteristics, they just won't handle a lot of power. When you use a lot of them to overcome the power limitations you end up with a speaker that I've found needs very little, if any, EQ. If I was going to go to the trouble of getting an EQ I'd go with the DCX and bi-amp the system. One thing these dual lines do like is high order crossovers, and the 48dB slope in the DCX seems ideal for the job. The built in 31 band EQ will get that response flatter than flat and with the autoEQ function it does all the work for you and corrects for room response at the same time, including your sub. It does mean you'll need another amp for the tweeter line, but with the sensitivity being as good as it is ten watts ought to do it.

Subject: Re: Equalization in Arrays
Posted by Zene Gillette on Thu, 04 Aug 2005 07:01:05 GMT
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Great post. Was considering the DCX2496 for the same type array. Was there any downside to it like noise/distortion or whatever that you could tell? Zene

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Subject: Re: Equalization in Arrays
Posted by justinc on Sat, 24 Sep 2005 13:25:03 GMT
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How do you feel about using eq for good drivers? Im working on an array using the focal polyglass line 6.5" and a single fountek. Im deciding on whether to just design a passive xover and use a deq2496(the auto eq looks nice!), or go active and get a dcx2496. I am probably going to test out the new behringer a500 amplifiers with these speakers. I would only use one if I go with the deq, but will need 2 of them if i go with the dcx. So I figure it will cost about the same price for either option. Does the dcx provide enough eq in itself? one of the main things I would like to eq up is the low end response of the mids because i will be going with a rather small box. thanks for any help/input on these devicesjustin

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