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Subject: More info wanted on DCA speaker drivers, and help wanted on 1st horn speakers!

Posted by [Cheesehead](#) on Wed, 08 Nov 2006 01:11:35 GMT

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(Note: I THINK that I may have already posted something to this effect...and I can't find it. Hence, I'm posting again.) I am now the proud owner of some DCA drivers! They use ordinary paper drivers and rubber surrounds, but then again, Class-D amplifiers are supposedly absolute garbage. I'm also trading computer bits to a cabinetmaker to make me some boxes. Can anyone make some suggestions as to what I should do with them? I was thinking some standard PAWO horns; I've heard they have pretty good bass response. The room I'm liable to be using these in is about 18' by 12' (based on a rough guess), and due to an odd design, lacks "corners" in which I can easily put speakers. I know that some horns only work properly if put in the corners of a room; are PAWOs similar to these? For amplifiers, I'm hoping to make these "active" speakers using LM3875 (30w max) amplifiers. Although overkill in terms of power, they're supposed to be quite good if used properly, and they're cheap, too. (I'm paying a grand total of only about 30\$/channel for amplification - woot!) Because I'm connecting these with good old-fashioned RCA interconnects (likely Cat6 or Cat5e - cheap, twisted-pair, and shielded!) it's really, really easy to add an active filter. I was thinking of a standard bass-enhancement filter to work against the rolloff that most speakers of this type have below 100hz, and using the DC-blocking input capacitor to cut off signals below about 45hz to prevent nasty sounds. Can anyone also recommend a good material for the front side of the speaker? In OB designs, MDF has a reputation for damping a bit (not surprising - it's porous!), and plywood pine are both supposed to be better, although more prone to splitting. Should I use a thin sheet of pine or plywood for the front of my speaker? And what would happen if I used thin (1.5mm) copper sheet over the MDF? (This is the most desirable option - I'm better at metalworking than woodworking.) I was also wondering as to the viability of using magnets to attach the front of the speaker. By using some powerful (but cheap) neodymium magnets (at the corners, and in the middle of the long sides), it would be easy to produce a speaker that could be easily opened and re-stuffed. Also, finally, can anyone recommend a way to make these hypo-allergenic? I have allergies, and these will likely end up in my room. All the assorted chambers make it look like a massive dust and mold trap.

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Subject: Re: More info wanted on DCA speaker drivers, and help wanted on 1st horn speakers!

Posted by [akhilesh](#) on Thu, 09 Nov 2006 00:48:21 GMT

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Hi, I own a couple pairs of these drivers, and run them in a PAWO horn. I have heard these for a while, in different configs. Here are my suggestions: 1. these will go down to 45 hz in a PAWO horn, but will have excessive IM distortion, as well as a pronounced high. Crossing them actively at 80 Hz or even 70 Hz, dramatically reduces the IM distortion, and smooths out the highs. Run this way, they sound very, very good, esp in a small to medium size room. Of course you need a good sub. I would recommend subs by Hsu research. Material: Use 3/4 " to 1 " thick Baltic birch or MDF. I wouldn't use anything else. I don't think these are dust magnets...I have serious

allergies too. You have a great set of drivers, Enjoy them!

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Subject: Re: More info wanted on DCA speaker drivers, and help wanted on 1st horn speakers!

Posted by [Cheesehead](#) on Thu, 09 Nov 2006 01:55:03 GMT

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Thanks! MDF all around, then. Any suggestions for a cheap subwoofer? Seeing as how I'm building these as "active" speakers, adding a subwoofer is easy. I was thinking of the Dayton 8" SD215 shielded subwoofer driver in combination with yet another 30w gainclone module, and some sort of op-amp mixer.

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Subject: Re: More info wanted on DCA speaker drivers, and help wanted on 1st horn speakers!

Posted by [akhilesh](#) on Thu, 09 Nov 2006 02:56:10 GMT

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I'd stay away from the ultra cheap subs & most kits. They are not great for musicality (may give good SPLs but not flat curve. )The best value for the money I know of is hsu research. You can get a used vtf hsu sub on audio groan for about \$350-\$400. WELL worth it. Dr. Poh Tser Hsu knows what he is doing with regard to subs. I don't know of any subs for less than that, unless you get a used velodyne. Can't think of anything else in the sub \$350 range that would work well. The dca drivers in a PAWO horn deserve a good sub. I'd save. Besides, a good sub can be used in other systems as well. My 2 cents.

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Subject: Re: More info wanted on DCA speaker drivers, and help wanted on 1st horn speakers!

Posted by [Cheesehead](#) on Thu, 09 Nov 2006 03:40:16 GMT

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The problem with this is that, to put it simply, I can't afford a proper subwoofer. (I'm a student. Go figure.) 300\$ is too much, especially considering that I don't need that power. I'm thinking about using a WC20RC38-s woofer (40\$) - although hardly a traditional sub, they can perform well down to 30hz with pretty much no EQ. Combined with a 32w Gainclone amplifier set to double the gain of the PAWO amps, this should provide some pretty decent bass for a very low cost. (I live near Madisound.)<http://www.madisound.com/silverflute.html>Here's a speaker using this exact woofer, or possibly the slightly cheaper non-shielded version.[http://www.tnt-audio.com/casse/jupiter\\_europa\\_e.html](http://www.tnt-audio.com/casse/jupiter_europa_e.html)I might just build all three gainclone

channels into the subwoofer, and use an outboard preamp.

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Subject: Re: More info wanted on DCA speaker drivers, and help wanted on 1st horn speakers!

Posted by [akhilesh](#) on Fri, 10 Nov 2006 03:25:02 GMT

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If on a tight budget, here is a possible solution: Don't think about biamping (a good crossover costs a few hundred anyway + the cost of the extra sub amp will be a couple hundred). Instead, try out a passively crossed solution. I'd buy a pair of drivers from parts express (the pioneer foam surround woofers come to mind), put them in a BR box, and cross the entire thing 12 db / octave at around 70 Hz. Match for efficiencies, you may find that you have to lower the effs of the woofers (a first, eh?) to get a solution that meets your needs. You could build the BR box so it attaches to the back of the horn or something. I think this solution would also sound very nice.

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Subject: Re: More info wanted on DCA speaker drivers, and help wanted on 1st horn speakers!

Posted by [Cheesehead](#) on Fri, 10 Nov 2006 03:37:20 GMT

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I'm ordering PCBs for Gainclone modules - the added cost would be about 20\$ for a 3rd channel on the amplifier.

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