Subject: Cheap and easy phase plug
Posted by hurdy_gurdyman on Sun, 18 Dec 2005 20:45:58 GMT
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Looking to make a cheap and easy phase plug? I made a pair today from a short piece of PVC pipe and the plastic cup from a toy slot machine. Total cost was probably under a buck, and you get to keep the
toys.http://pg.photos.yahoo.com/ph/the_hurdy_gurdyman/detail?.dir=6d5d&.dnm=9006.jpg&.src=phThis is a very transparent plug! Dave
phase plug

Subject: Re: Cheap and easy phase plug
Posted by lon on Mon, 19 Dec 2005 02:34:21 GMT
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Round phase plugs?I thought they had to be bullet shaped. :-/Closest to homemade (turned on a lathe or something)I've ever seen was wooden eggs found in craft stores.

Subject: Re: Cheap and easy phase plug
Posted by hurdy_gurdyman on Mon, 19 Dec 2005 03:25:56 GMT
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These have egg shaped tops. There are many different shapes of phase plugs.http://audioprogress.free.fr/Dave
different phase plugs

Subject: Re: Cheap and easy phase plug
Posted by Norris Wilson on Sat, 31 Dec 2005 02:20:51 GMT
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Hi hurdy_gurdyman,I was thinking about objects that are shaped like most of the phase plugs that I have seen. And I though about cutain rod fenials, that can be purchased at most department stores, or remodeling supply super stores like Lowes. I know they make several different shapes out of out of wood, plastic, and metal that could be retrofitted.Just a thought.Norris Wilson

Subject: Re: Cheap and easy phase plug
Posted by hurdy_gurdyman on Sat, 31 Dec 2005 18:16:10 GMT
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Hi Norris,I suspect there are a lot of things in various stores that would make good phase plugs. Model rocket nose cones come to mind. Right now, I'm looking for things that will work for a 2 inch voice coil. Sometime in the future I'm going shopping for a tweeter that will fit on a short piece of PVC pipe that is efficient enough to keep up with my EV's. I'll cross them high. Then I'll have coaxials and won't worry about phase plugs anymore. Dave

Subject: Re: Cheap and easy phase plug
Posted by Norris Wilson on Sun, 01 Jan 2006 04:51:07 GMT
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Hi Dave,I would be interested in such a compact highly efficient tweeter.  If you come up with one, please post your resuslts?  Also, let us know how your phase plug experiments go?  I would like to find an efficient 8" fullrange driver, 96db or more, that does not have a whizzer cone and can be run without a crosover on an OB down close to 80Hz.  So far, most of the drivers that I have seen that would work in this range, have large peaks starting around the 2kHz to 9kHz range.  I thought a phase plug could help tame these peakes somewhat.I would like to stay away from any EQ or crossovers in the critical midrange if possible.Some of the German 20cm fullrange drivers look promising.  Any suggestions? Norris

Subject: Re: Cheap and easy phase plug
Posted by hurdy_gurdyman on Sun, 01 Jan 2006 17:21:34 GMT
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Norris,Have you checked out a Visaton B200?Dave

Subject: Re: Cheap and easy phase plug
Posted by Norris Wilson on Sun, 01 Jan 2006 22:54:28 GMT
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Hi Dave,Yes, I have looked at the B200 before and feel it could be a good candidate for my open baffle use.Do you know what Visaton's measuring criteria is for the frequency versus impedance plot for the B200, I did not see it?I did see that the B200 has a 84db output at 80Hz 1watt/1meter, and 96db at around 11kHz where it takes a dive.The no box design that they offer as one of the

possible plans for the B200 is what has inspired me to pursue this open baffle criteria.I would like to go with this basic design, but with a slightly different baffle and crossover configuration. I would like to mount the bass driver in its own wider open baffle that would be tailored to the midbass region. And use a narrower baffle for the midrange driver where it would not use a crossover except for a simple capacitor to a super tweeter at around 10kHZ. These seperate baffles for the midbass and midrange would give me a little more freedom to physically align the drivers more precisely. And they would eliminate most of the the drivers frequency interactions and resonance coupling problems. I would use seperate amplifiers for the different open baffle speakers frequency ranges where the midbass would be rolled off on top by a passive 600 ohm in line filter. Active subwoofers would bring up the bottom frequencies of around 50Hz.Looking at the frequency plot for the B200 may explain why they are using a 250Hz crossover for the no box speaker design with the 54cm wide baffle.Look at the No Box speaker design given on the B200 information page.My though of German, or European driver for my open baffle criteria is mostly based on the use of AlNico magnets at a reasonable cost.Any suggestions?ThanksNorris
http://www.visaton.com/english/artikel/art_771_2_3.html

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Subject: Re: Cheap and easy phase plug
Posted by hurdy_gurdyman on Mon, 02 Jan 2006 04:22:30 GMT
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Here's a link to a forum with a big discussion on the B200.http://www.audiocircle.com/circles/viewtopic.php?t=19253&highlight=visaton+b200I don't know how Visaton measures them. As far as getting a driver that will cover the range from, say, 80-10,000 Hz, consider the ones I use, vintage Electro-Voice LS 12's or LS-8's. On a 2 1/2 foot x 3 foot baffle, these both play down to 80 Hz and up to 10 kHz, and do so reasonably flat. Both respond well to standard fullrange driver tweeks, like adding phase plugs. Both are available for under $100 a pair, sometimes more like $50. The LS-12's are supposed to be around 94-95 dB sensitivity, but seem even more. The LS-8's are a dB or two less sensitive. The 12's ahve a bit more mid-bass energy because of bigger cone and higher Qts, so can use a slightly smaller baffle for about the same bass response. Although I haven't tried them, I suspect that the SP-12's and 12TRXB's would also do good on OB's.BTW, the LS-12's come with both AlNiCo and ceramic magnets. The ceramic ones weigh around a pound more. Ceramic ones have a black gasket on the front and a black nameplate on the back with silver lettering. The AlNiCo ones have a blue gasket on the front and a silver plate on the back. At least the ones I have are like that.Dave
B200 discussion

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Subject: error
Posted by hurdy_gurdyman on Tue, 03 Jan 2006 15:45:55 GMT
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>The 12's ahve a bit more mid-bass energy because of bigger cone and higher Qts, so can use a

slightly smaller baffle for about the same bass response. Although I haven't tried them, I suspect that the SP-12's and 12TRXB's would also do good on OB's.

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Subject: Re: Cheap and easy phase plug
Posted by Ron brady on Mon, 09 Jan 2006 19:48:12 GMT
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Hi DaveI recently installed a small tweeter on the 2" pole piece for my Beta 12LT making it a coaxial driver. The tweeter I used is an automotive tweeter made by Lanzar. It is a 1" silk dome tweeter with an spl rating at 96db. It is their DCT model and is a perfect fit on a short piece of pvc pipe attached to the pole piece. I am using it at 9500Hz and above using a 4.3mfd solen cap as a crossover element and nothing more. At $20 per pair it is a great find. They also make a 1" titanium tweeter that has a rating of 96db for about the same price.Hope this helps.Ron Brady

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Subject: Re: Cheap and easy phase plug
Posted by hurdy_gurdyman on Mon, 09 Jan 2006 22:27:46 GMT
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I'll look into those. Thanks.Dave

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