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Subject: Good outcome with phasing plugs

Posted by [Adrian Mack](#) on Thu, 11 Dec 2003 07:17:05 GMT

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Messed around today with a couple of different phasing plugs, triple checked speakerworkshop etc to make sure its going right. I did see an improved top end when using a phase plug. My phase plugs were basically discs, of a few different diameters and thicknesses. I am going to muck around more with phase plugs, perhaps try different shapes and see what happens then. It definitely did improve the top end though!! I think last time why SW gave me a different result in the end (when I stated response to 1.6KHz on the conical, then I came back and said it was no longer happening) was because my filler block was kinda pressed against the cone. I knew this was happening because it was a bit oversized and I couldn't be bothered changing it to a more appropriate shape (used two smaller blocks that I had already made and put them together to form one big one), so what happened was at the beginning it limited cone movement and HF response increased, but after continuous use, a few hours etc, the cone no longer completed stayed limited. The cone sort of started 'bending', the filler block only limited it near the edge of the cone (towards the surround), so the part of the cone near the middle (towards the dustcap) started bending/bulging, however you want to put it. Kinda like cone flex, it only became apparent after continuous testing/strain on that day. Anyway, that's what happened... I have since removed that oversized filler block as it could also damage the drivers (no damage has been done though). I started today building yet another conical horn... this time with a 110mm diameter throat. I will use changeable sizing rings this time so I can try different throat sizes on the horn. Perhaps a little larger throat so that phase cancellations above 1KHz are reduced and also a phase plug too will get me my wanted HF extension, I'm pretty hopeful after my results with phase plugs today. I might post graphs here later of different phase plugs and their results etc, perhaps not for a few days though until I get everything done. Will post back.....