
Subject: Horn length (revisited)

Posted by [Kevin Jordan](#) on Sun, 03 Oct 2004 14:26:47 GMT

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I am still looking for ways to make small basshorns. I thought maybe I could make a foreshortened horn as long as it would be used with others in groups. Then I considered making them long and thin but that is more of a TL pipe, with main peak output at 1/4wl. Now I am thinking maybe there is no free lunch. Is there no other way to make basshorns but big? Rgs, Kevin

Subject: Horn Mouths

Posted by [Mike.e](#) on Sun, 03 Oct 2004 23:40:25 GMT

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There's no way to make a basshorn small. All you can do is make it highly compromised. I wouldn't shorten a horn in groups; you'll miss your lows - I would make the mouth smaller. That way the mouths will add when placed in close proximity. You can compromise a basshorn down to using an 8" Peerless Csx on a 135 litre 104db/1watt basshorn (50hz loading). But that's about it! To get higher output, more larger capable driver.. eg Csx 10" or lab12 on 300 litre horn with 2600cm² mouth for 50hz.. Cheers!

labhorn infos

Subject: Re: Horn Mouths

Posted by [Bill Fitzmaurice](#) on Mon, 04 Oct 2004 11:45:40 GMT

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'There's no way to make a basshorn small' Depends what you call small. Using room reinforcement (and if your speaker is in a room why aren't you?) you can get down to the 3.5-4 cubic foot range with useable response to 25Hz no problem. You do have to keep the pathway long, which means a small mouth, and you have to toss the 'old school' reliance on hypex tapers. When 'going by the book' doesn't work sometimes you just have to write a new book.

Subject: Re: Horn Mouths

Posted by [Kevin Jordan](#) on Mon, 04 Oct 2004 15:27:53 GMT

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25hz from a 3.5 cubic foot horn!!!! That's what I want! I think the throat entrance would need to be the size of a drinking straw though. Are you sure there is a high power driver that can do bass

through a throat this small?Rgs,Kevin

Subject: Re: Horn Mouths

Posted by [Bill Fitzmaurice](#) on Tue, 05 Oct 2004 12:21:23 GMT

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It's the MCM 55-2421 and one is sitting in my AutoTuba. Power is limited to 100 watts, so it can only get to 115dB at 25Hz, but I find that's quite sufficient in my livingroom. Throat size is 20 sq.in.

Subject: Re: Horn Mouths

Posted by [Kevin Jordan](#) on Tue, 05 Oct 2004 14:28:25 GMT

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Thank you.

Subject: Re: Horn length (revisited)

Posted by [Oberon](#) on Wed, 06 Oct 2004 14:33:26 GMT

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Horns *can* be made smaller in some situations, and use in groups is one of them. Venue is very important, as the correct size can vary as much as 10X depending on usage. There is a common misunderstanding that horns must be 1/4 wave long and mouth area must be 1/4 wavelength in circumference. This is only a rule of thumb. If a horn is flown alone, that's true, and length should really be 1/2 wave. However, that is rarely the case and almost never for basshorns. Basshorns are almost always used on the ground, which cuts these values in half. Use a pair of basshorns on the ground and the size is cut by 1/4. In fact, the most common basshorn is actually 1/8th size. It is smaller both in length and in area. If used in groups, 1/8 size horn is all you need. This will be both shorter in path length and smaller in mouth size than 1/4 wave.
