Subject: room+corner horn,xmax,Fc questions
Posted by portedmike on Fri, 14 Mar 2003 10:58:44 GMT
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Hello !i have read the pi theory in the search part of the site its very useful to get the backround theory before asking silly questions!i have several questions .... :o)1. if i use pialign for my own speaker,and use the same throat areas on the sides of the box,is that ok/in other words the only variables is the tuning freq and the box volume.(which normally looks like a flat highish F3 response)2.i was wondering if there is any way to estimate system response((refering to corner horns))(infact i have the plans for a pi speaker but only just now have the chance to build one.)probably there is no point having speaker resonance below 40hz,and 40hz is low enough for my tastes anyway(if the room permits)3.Does the horn exhibit the *normal* horn loading on the cone of the speaker?4.eg 109db/1watt efficiencys common? low excursion needed ??5.- the dimensions of this room being 6metresx4.5metres,can we estimate if the horn wil have its Fc near 30hz or 50hz for example?6.how well does the horn system operate below the speakers resonance does it keep its output Up or is it like conventional bass reflex that rolls off steeply ?will i not know what frequency the Horn/room loads the speaker until i build it.??Thanks alot !!! :-D

Subject: room + corner horn, xmax, Fc answers
Posted by Wayne Parham on Fri, 14 Mar 2003 22:12:08 GMT
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There is no compression and the rear chamber is slightly overdamped, making response

easy to build and service.

ring" in front of the woofer to increase compression above 1:1. The woofer is mounted on the baffle just as the 1:1 configuration, and a compression ring is placed over the woofer and held in place with the same mounting screws. So the throat area is determined by this first orifice.

And a third configuration for the cornerhorn is one that uses reduced size slots to form the actual throat. In this manner, the volume between the woofer and the side slots forms a sizable front volume, which is normally absent on the other two configurations. This allows more tuning paramaters at the expense of necessitating an access panel, making the design harder to build and service. However, some have built this configuration eliminating the slits entirely and used the space between the chamber and the walls as the throat. That gets around the requirement for an access panel.

room's corners, and there are no foldings within the cabinet. The cabinet serves only as the throat and a chamber for the woofer. It is a tuned chamber, so it allows some tuning but the horn flare is

formed entirely by the room's corner.

One of my favorite software tools for simulating the cornerhorn or any other horn is McBean's Hornresp program. You will need to enter driver parameters and area expansion as a function of length. The profile is conical, and the area expansion is determined by the formula A=X230.5/4. Please see the post called "Cornerhorns" for more information.

Subject: thanks
Posted by mikeported on Fri, 14 Mar 2003 23:23:36 GMT
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thanks wayne!just regarding mcbeans hornresponse program,,how do i compute an infinite hornisnt an infinite horn tuned infinitly low?a prob:and sometimes,after i chose a tractix horn i cant change the horn type back to conicalshould i have 3metres as the length,do i work out the area or do i use a dimension of my room?thanks wayne its interesting!i was thinkn of using a cheapie speaker with low Xmax,,12inchFs=23hzQ=0.23Vas=259litrehave u seen this website ?www.royaldevice.com:-)many thanks!-mike

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Subject: Re: thanks
Posted by Wayne Parham on Sat, 15 Mar 2003 02:45:29 GMT
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To compute an infinite horn, enter "0" in the "ANG" field. This is best used to approximate the response of a large group of similar finite horns.To model the expansion from a trihedral corner, use the formula A=X230.5/4 to calculate area expansion, where A is area and X is distance from the apex.If you have any problems using Hornresp, write me and I'll walk you through it. You can also contact David McBean, the author or the program. He is very approachable and is glad to hear from people using the program.
