Subject: Ported Enclosure for line array
Posted by JP Haggar on Mon, 02 Oct 2006 13:42:03 GMT
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How much stuffing and wich kind is better for absorbing standing waves in a ported line array ?I'm building the enclosures with double layer 1/2 " MDF with 1/2 " sand filling in between to avoid any enclosure resonance , with horizontal braces between the 8 Mid/Woof. Is the port better on the back panel or the front panel? Only have 30 cm clearance to the rear wall ?Thanks

Subject: Re: Ported Enclosure for line array
Posted by Anonymous on Tue, 03 Oct 2006 14:30:51 GMT
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Use the same rule of thumbs as you would any ported enclosure.Don't stuff the box in such a manner that hinders port performance,usually loose fill. You can experiment by adding/removing filland taking note of how it works. A more exotic method is to makesound conditioning pillows. I used ordinary poly batting withAcoustastuf {substitute polyfill to save money} inside, foldedto make it like a pillow, use 3M spray glue to secure the pillowand use the glue to attach it to each cabinet wall.see pic; [looking inside chamber through rear 6" port]http://home.pacbell.net/lordpk/robarray/Rear_chamber-2.JPGThis works very well. The large hole and pillows gives me the openairspace for proper port function and the rear sound wave has a nicebig 6" hole for some of the sound to exit. The sound is smooth,uncolored by the box.You don't need a fancy 1/2" - sand - 1/2" recipe, you can doa simpler recipe if you have proper bracing to deaden the cabinet.I used 3/4" plywood {except front baffle}, then installed 12" x 12"MDF panels on each chamber wall [except the front side], four chambers. The chambers are seperate/isolated by a wood brace, theneach chamber has a 1" dowel securing the side panels. This is morethan enough to solve the problem.

Subject: Re: Ported Enclosure for line array
Posted by JP Haggar on Tue, 03 Oct 2006 19:16:23 GMT
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ThanksParts of the enclosure emit more sound than the actual drivers , by using a sound level meter I could spot around 200hz 400hz until 1660hz vibrations on the sides and back.I guess the MDF I'm using has a low density (700 kg / m3 )and needs to be stiffen or maybe I should use 1" instead of 3/4" for sides and back , I decided to brace with horizontal sheves with openings in them ,between each driver that way the four sides are attached ? About the port I still have to make a final decision as to where to place it , I have the alternative to put it in lower front, lower back, or mid back , considering I only have 30cm clearance from the back to the wall could you advise on that? Port is 15cm diam. and 9.5cm long box is tunes to 39hz .

Subject: Re: Ported Enclosure for line array
Posted by Anonymous on Tue, 03 Oct 2006 20:40:06 GMT
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I'm not familiar with your project but big cabinets can get noisy.Thick walls plus bracing is needed. My cheap array has 1 3/8" wallthickness throught out the design. Even so, more cross bracing wasneeded. This was determined while building by using the old schoolhammer trick on the cabinet - thunk - lol .. {same trick used byWilson Audio to demo their fancy materials - lol}, hit the cabinet in different areas and fix the problems as they happen, but you needto start with a good plan first. Just analyze your box whilebuilding and fix the problem spots. Don't think about it too much,just couple the walls with wood or dowels to make the box dead.I don't think the port placement is going to be critical. Place itin the rear so it's not an eye sore and you don't hear any windnoise.