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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

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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 fill and taking note of how it works. A more exotic method is to make sound conditioning pillows. I used ordinary poly batting with Acoustastuf {substitute polyfill to save money} inside, folded to make it like a pillow, use 3M spray glue to secure the pillow and 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.JPG](http://home.pacbell.net/lordpk/robarray/Rear_chamber-2.JPG) This works very well. The large hole and pillows gives me the open air space for proper port function and the rear sound wave has a nice big 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 do a 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 separate/isolated by a wood brace, then each chamber has a 1" dowel securing the side panels. This is more than enough to solve the problem.

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Subject: Re: Ported Enclosure for line array

Posted by [JP Haggar](#) on Tue, 03 Oct 2006 19:16:23 GMT

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Thanks Parts 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 / m<sup>3</sup>) 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 sheaves 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 tuned to 39hz .

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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" wall thickness throughout the design. Even so, more cross bracing was needed. This was determined while building by using the old school hammer trick on the cabinet - thunk - lol .. {same trick used by Wilson Audio to demo their fancy materials - lol}, hit the cabinet in different areas and fix the problems as they happen, but you need to start with a good plan first. Just analyze your box while building 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 it in the rear so it's not an eye sore and you don't hear any wind noise.

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