Subject: Alternate idea for 7Pi midhorn enclosure?
Posted by altecguy on Thu, 31 Jan 2013 07:06:48 GMT
View Forum Message <> Reply to Message

Hi, I was wondering if a box enclosure could be fit at the end of the midhorn to house the delta 10 and leave the outside flare of the horn exposed? As long as the volume of this box follows the guideline, I don't see a problem except for increased depth. All exposed surfaces of the midhorn could be veneered for a nice look.
Thanks

Subject: Re: Alternate idea for 7Pi midhorn enclosure?
Posted by Wayne Parham on Thu, 31 Jan 2013 14:14:30 GMT
View Forum Message <> Reply to Message

Sure, as long as the rear chamber is greater than 0.35ft3, it can be pretty much any shape; It just needs to be big enough to surround the driver and that's all. Since the midhorn cabinet is used on cornerhorns, it makes sense to have a shape that is suitable, so trapezoids might be better than rectangular cabinets. But it is really a matter of aesthetics.
Midhorn Cabinets

Subject: Re: Alternate idea for 7Pi midhorn enclosure?
Posted by JCDC on Thu, 31 Jan 2013 18:43:27 GMT
View Forum Message <> Reply to Message

What is the ideal enclosure size for the Delta?
Any different if you use the Alpha10?

Cheers,
Jeff

Subject: Re: Alternate idea for 7Pi midhorn enclosure?
Posted by Wayne Parham on Thu, 31 Jan 2013 20:34:22 GMT
View Forum Message <> Reply to Message

In this case, the ideal rear chamber size is more horn-related than driver-related. I should say it is horn/driver-related, since they are a system, but my point is it's not just a matter of the driver, like in the case of a sealed or vented direct-radiating loudspeaker cabinet.

The ideal rear chamber size for this horn is infinite, but it approaches that anywhere larger than 0.35ft3. We're not looking for reactance annulling - The horn is essentially designed to have an open rear chamber, but we don't want the rear wave bouncing around, so we need it contained

and damped.

The size where the chamber is large enough to be effectively "infinite" is 0.35ft3. That's not a very large chamber, but again, this is a horn and the volumes are different for horns than they are for direct radiators.

Subject: Re: Alternate idea for 7Pi midhorn enclosure?
Posted by altecguy on Fri, 01 Feb 2013 00:15:43 GMT
View Forum Message <> Reply to Message

Thanks for the reply. My idea was to build a box with the correct volume to house the Delta 10 and attach it to the horn that came in the flatpack. I glued up the flatpack last night. Kudos to your product, cutting all those pieces would have taken forever. The flatpack horn is well worth the price.
Thanks

Subject: Re: Alternate idea for 7Pi midhorn enclosure?
Posted by JCDC on Fri, 01 Feb 2013 14:01:12 GMT
View Forum Message <> Reply to Message

Wayne Parham wrote on Thu, 31 January 2013 14:34
... The size where the chamber is large enough to be effectively "infinite" is 0.35ft3. That's not a very large chamber, but again, this is a horn and the volumes are different for horns than they are for direct radiators.

For some reason I thought I recall you saying that the rear chamber is sized to be "small" and provide a bit of a freq boost near 200Hz. ?!? Is this correct, or am I doing the very thing you mentioned--applying box theory to horns.

Wayne Parham wrote on Thu, 31 January 2013 14:34
...
 The horn is essentially designed to have an open rear chamber, but we don't want the rear wave bouncing around, so we need it contained and damped.

So would leaving the driver open backed and then covering it with a few layers of insulation be good? Or is the driver still producing lower freq (<200Hz) so the insulation is less effective ...

Hmm, the 8 Pi always seemed elegant to me (1 driver from 20-2000 and with two technologies); now it's even more intriguing!

Cheers,

Jeff

Subject: Re: Alternate idea for 7Pi midhorn enclosure?
Posted by Wayne Parham on Fri, 01 Feb 2013 15:35:43 GMT
View Forum Message <> Reply to Message

JCDC wrote on Fri, 01 February 2013 08:01For some reason I thought I recall you saying that the rear chamber is sized to be "small" and provide a bit of a freq boost near 200Hz. ?!? Is this correct, or am I doing the very thing you mentioned--applying box theory to horns.
There is some similarity, in that the sealed rear chamber provides some peaking if it's small enough. The electro-mechanical parameters of the driver shift when it's mounted on the horn though. Still, reactance annulling does that, essentially providing a smidge of peaking right below cutoff.

could, I suppose, if you wanted to. But I don't. I want a smooth gradual rolloff with output down into the modal range, to blend with the woofer.

JCDC wrote on Fri, 01 February 2013 08:01So would leaving the driver open backed and then covering it with a few layers of insulation be good? Or is the driver still producing lower freq (<200Hz) so the insulation is less effective?
That's right. Insulation surrounding an open driver would work fine at higher frequencies but would be almost completely ineffective at lower frequencies where you needed it most. If the rearwave is strong, and then "amplified" by corner loading, you get some weird interference patterns and the lobing that results. So put that driver in a box.

Subject: Re: Alternate idea for 7Pi midhorn enclosure?
Posted by JCDC on Fri, 01 Feb 2013 16:59:16 GMT
View Forum Message <> Reply to Message

altecguy wrote on Thu, 31 January 2013 01:06Hi, I was wondering if a box enclosure could be fit at the end of the midhorn to house the delta 10 and leave the outside flare of the horn exposed? As long as the volume of this box follows the guideline, I don't see a problem except for increased depth. All exposed surfaces of the midhorn could be veneered for a nice look.
Thanks

Sorry, to derail your thread! I too am trying to make the midhorn higher WAF.

Your idea of no outer box for the midhorn is what I was thinking too. You could do it a different colour or veneer! As well, if you make the box surrounding the back of the driver a wedge shape, it could fit further into the corner ... but then you're want to push the tower15 further into the corner ... and then you're changing the design.

Cheers,
Jeff