
Subject: help with pi alignment

Posted by [Jim Dudley](#) on Wed, 09 Aug 2006 15:20:29 GMT

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I'm looking for help with a Pi alignment for following car subwoofer. (I use this alignment with an Altec 515-8g at home and love it but someone else made the calc for me.) Driver: Image Dynamics IDQ10 D2 V.2 Dual voice coil. Will series wire for 3.7 ohms ReFs 23 hz Qes .345 Qms 4.77 Qts .322 Vas 2.26 cu ft Sd 350 cm² SPL 89.4 I would like to use a 2.5" dia port The manufacturer has some recommendations but have no idea what alignments. Thanks!! Jim D.

Subject: Image Dynamics IDQ10

Posted by [Wayne Parham](#) on Wed, 09 Aug 2006 21:33:41 GMT

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The Image Dynamics IDQ10 woofer looks good in cabinets from 0.5ft³ to 1.5ft³ tuned to 26Hz. PiAlign suggests 0.75ft³ which provides a nice flat response curve that is slightly overdamped. It has f₃ of 40Hz and f₁₀ of 25Hz, so it will sound very nice in home or in a car. Being slightly overdamped, room/cabin gain will effectively conjugate its amplitude response. For subwoofer use, you can go a little larger, to 1.0ft³ or 1.25ft³. That will give f₃ closer to 30Hz, but f₁₀ is still around 25Hz. The larger 1.0ft³ cabinet makes a great alignment for use outdoors or in very large rooms, but may sound a little bit boomy in medium to small rooms or in your car.

Subject: Thanks Wayne!! (nt)

Posted by [Jim Dudley](#) on Thu, 10 Aug 2006 09:58:24 GMT

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Subject: Port tuning frequency

Posted by [Jim Dudley](#) on Thu, 10 Aug 2006 12:31:50 GMT

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Wayne, One more question My enclosure looks like it will end up at 0.86 cu ft for the space I have, very close to the pi alignment volume. What frequency should I use for port tuning? I could reduce to .75 cu ft if it matters. Jim D.

Subject: Re: Port tuning frequency

Posted by [Wayne Parham](#) on Thu, 10 Aug 2006 13:51:43 GMT

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Tune the cabinet to 26Hz. The IDQ10 works well in cabinets from 0.5ft³ to 1.5ft³ tuned to 26Hz. If you made the cabinet larger than that, you might want to tune lower for an EBS alignment. But in the 0.5-1.5ft³ range, 26Hz is the best Helmholtz frequency for that woofer.
