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Subject: WinISD 0.44

Posted by [johnnycamp5](#) on Tue, 18 Jun 2019 18:18:11 GMT

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I like to play on winisd, goofing around with different woofers and alignments.

I noticed when you select either closed or ported enclosure, it gives an already established box and/or port size, with an established tuning frequency.

Ive read these are what is considered the best or most "commonly useful" alignments.

For the jbl 2226h, it shows this alignment-

I don't see a peak at he tuning frequency, like you might see with an under-damped alignment, but Ive definitely seen more over-damped alignments, especially when sealed...

What could you expect to hear subjectively, from this suggested alignment of theirs, having a 52Hz tune at 73.5 Liters??

I would guess the woofer might unload frequently, especially with certain movies, below the port tune?

What might be the pros and cons??

#### File Attachments

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1) [IMG\\_0540\(1\).jpg](#), downloaded 518 times

2) [IMG\\_0541.jpg](#), downloaded 258 times

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Subject: Re: WinISD 0.44

Posted by [Wayne Parham](#) on Tue, 18 Jun 2019 19:49:46 GMT

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That's approximately the same size box I run. It sounds great in that size box. I tune mine a little below that, which as you said, gives the system an overdamped alignment. I like that because thermal shifts don't push towards underdamping, but rather shift to a less overdamped alignment. It's just more tolerant of thermal shifts.

To be very honest, what I've found that is as important as the Helmholtz frequency in boxes this size are the standing waves in the 100-300Hz region. Those are too low for acoustic insulation on the enclosure walls to damp effectively. And you don't want to fill the box with stuffing if its ported.

So I do an arrangement that works well for large ported boxes, which is to span the cross-section with a sheet of insulation. It is far enough away from the cabinet boundaries to lower the frequency range where damping material works. So it effectively "catches" the lower midrange while letting the bass pass right through.

It also helps to position the driver and the port carefully so that they do not line up with a standing wave mode. It's kind of like working with room modes, except the frequency range we're concerned about is shifted upwards because the chamber size is smaller than a room. So instead of modes lining up in the bass, they line up in the midrange. That's why careful placement of driver, port and damping material all come into play.

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Subject: Re: WinISD 0.44

Posted by [johnnycamp5](#) on Tue, 18 Jun 2019 20:23:00 GMT

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Is the port and driver location as important with your corner horn bottom bins for mediating the mid range modes??

I have some wedge shaped cabs (although forward firing) I'd like to use under your mid horns, till I get around to building the real ones.

They're about 34" high x 16" wide, similar to your bass bins, but shaped like a triangle (right angled at the rear/center). They are around 95 liters each.

They have 4' D x 4" long port tubes, but I forget what the tune was (I'm guessing around 40Hz)

I could always pull the woofers and put in a center piece of fiberglass insulation.

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Subject: Re: WinISD 0.44

Posted by [Wayne Parham](#) on Wed, 19 Jun 2019 16:05:09 GMT

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The bass bin in my constant directivity cornerhorns is run low enough that the standing wave modes aren't an issue. There is some low midrange content, to be sure, but it is attenuated enough that the standing waves aren't troublesome.

My comments about the placement and insulation are directed at large cabinets run full-range. When a cabinet is larger than about 2.5ft<sup>3</sup>, the internal standing waves drop down enough that insulation on the cabinet panels isn't effective. But this is only an issue when the driver is a midwoofer, used up through the midrange band.

Subwoofers sometimes don't even have damping material in them, even physically large cabinets that would have standing waves in the midrange. But it isn't an issue because midrange isn't presented to them, so there is no energy to excite the modes.

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Subject: Re: WinISD 0.44

Posted by [johnnycamp5](#) on Wed, 19 Jun 2019 21:14:24 GMT

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Thank you Wayne.

That's what I figured.

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