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Subject: In over my head! Fostex 206 cabinet  
Posted by [Peter Swartz](#) on Thu, 14 Apr 2005 17:34:13 GMT  
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Hello, I think I jumped to fast when selecting the Fostex 206. After reading more about it, Fostex states that this driver is not best used in a bass reflex cabinet as is what I'm intending to use if for. I've been trying to read more to understand better the spec's of the driver. I see that Fostex gives an example of how the 206 can be used in a bass reflex cabinet. Their example was a tall 45liter cabinet with the driver up top and port a foot away with a partialseparator, I'd like to know what the real name for this is, which I guess causes some restriction between the driver and the port. I'm hoping to get my cabinet as close to 45 liters as possible. But what about any internal ribs, restrictors,etc... My cabinet is currently on paper only and approx. 12x27x9 with only two parallel sides. The cabinet mounts at the foot of my waterbed and the bafel tilts down and in the align the driver to the listener. Any help is greatly appreciated. Most of the drawings I see have the port only a couple inches from the driver in front. Might I be safe to do that even in a 45 liter cabinet? Thanks, Pete

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Subject: Re: In over my head! Fostex 206 cabinet  
Posted by [zobsky](#) on Fri, 15 Apr 2005 04:49:14 GMT  
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check AA for some recent successes on using the 206E in bass reflex cabinets

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Subject: Reference material here  
Posted by [wunhuanglo](#) on Fri, 15 Apr 2005 10:51:58 GMT  
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Might see you plans - you'd have to inquire as they usually are provided free as part of a driver order.  
Common Sense Audio

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Subject: Re: In over my head! Fostex 206 cabinet  
Posted by [Lance A.](#) on Fri, 15 Apr 2005 13:11:52 GMT  
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I own a pair of 206e's and built a pair of ,Classic Audio, 1.3 and Big Port 2.5 cabinets from Baltic Birch. The Fostex 206e in either of these cabinets worked well enough to make me a single full

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range driver devotee after 30+ years as an audio enthusiast and dealer.Lance A.

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Subject: Re: In over my head! Fostex 206 cabinet

Posted by [GM](#) on Fri, 15 Apr 2005 15:00:02 GMT

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Greetings!In the good ol' days it was called a tower bass reflex (BR) design, but recently Martin King 'did the math' to better define it as more a 1/4WL mass loaded pipe (MLTL, AKA ML-TQWT) than BR. There's no defined point between the two, just a BR morphs into a MLTL as one dimension becomes long enough to support some 1/4WL pipe action in the cab's passband. His PORTED WS also shows to some extent how the vent's position and harmonics affects the driver/cab summed response.Assuming an alignment that yields a flat response in a golden or acoustic ratio BR (AKA T/S max flat alignment), the vent position in a MLTL is critical to how flat the response is. As it moves closer to the driver it 'tilts' up the response, shifting Fp upwards, reducing system damping, so if you want to maintain a flat response requires either the vent be longer or critically damped. The 'restriction' is a 'window' brace and has no impact on the vent's output as long as it's not too intrusive.Plugging the Fostex design into MJK's PORTED WS yields some peaking at Fp (underdamped, AKA 'ringing') response around 45Hz so moving the vent up near the driver just makes it worse. Increasing its length to 5" (127mm) negates it for the most part and lowers Fp to ~the driver's Fs.All that's left then is to 'dial in' the amount of baffle step correction (BSC) and stuffing to flatten/smooth it out. Note that this driver's rising response will either require them being severely toe'd in or some form of EQ to flatten their mids/lower HF if listened to on-axis.Obviously, since your design is different you will have to sim it to find out what dims, etc. works best. GM

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Subject: This link may help you

Posted by [akhilesh](#) on Fri, 15 Apr 2005 18:29:11 GMT

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<http://audioroundtable.com/SingleDriverSpeakers/messages/70.html>Already discussed earlier in this forum.Hope it helps you!-akhilesh

Earlier message on SingleDriver forum giving advice on FE206E cabinet design

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Subject: Bass reflex and tuned pipes

Posted by [Wayne Parham](#) on Sat, 16 Apr 2005 15:27:17 GMT

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Not only is the length important but the positions of the driver and the opening in the cabinet.

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Depending on where those are, the standing waves can reinforce or cancel, and if the Helmholtz frequency is in the passband, it will have an affect as well. So I think your characterization of the two kinds of systems "morphing" is a good one, but I don't think it is accurate to characterize a tall vented box as being necessarily a transmission line. If the standing wave phenomonenon plays a large part in overall system response, then I think labeling it a transmission line makes sense. But if the Helmholtz frequency plays more of a roll, then it is a bass-reflex cabinet. And if they both do, which is entirely possible, then the system is a hybrid, having "morphed" as you say between the two.

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Subject: Re: In over my head! Fostex 206 cabinet  
Posted by [roncla](#) on Sat, 16 Apr 2005 23:28:02 GMT  
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Or just bite the bullet and build a BLH.ron

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