
Subject: "Step down" mode

Posted by [Paul C.](#) on Fri, 17 May 2002 02:17:38 GMT

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Wayne: In the Electrovoice speaker design paper (not sure where I got it) they talk about running speaker in smaller than optimum boxes, and tuning the port lower than would be for optimum response in the smaller boxes. Then, they run about 6db of boost in the range of the lower port tuning. This gives flat response to a frequency lower than could normally be obtained for a particular drive in a box of that size. They call this "step-down". Yes, it takes more power, but only on bass notes in that lower, boosted range, and in real music, this is just momentary. Are there any drawbacks to doing this? In a way, your Pi folded horn does the same thing, but you are boosting the low end via the horn itself, instead of with extra power of the amp

Subject: Re: "Step down" mode

Posted by [Paul C.](#) on Fri, 17 May 2002 02:47:28 GMT

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The paper was Electrovoice's Pro Sound Facts #7

Subject: EBS or "shelved" alignments

Posted by [Wayne Parham](#) on Fri, 17 May 2002 07:48:45 GMT

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Shelved or stepped response This would be the so-called EBS alignment, where the tuning frequency is set very low and peaked so that a shelf is formed. It provides flat response down to f_h , and then response is reduced but relatively flat below f_h down to f_l . That's why it requires increased power and is why guys today call it an "Extended Bass Response" or EBS alignment. Apparently Electrovoice called it "Step Down" and I called it "EBS Stepped Response from ported cabinet with specific peaking." This and other characteristic response curves are shown in a post called "Response curves of closed vs. vented systems."

Subject: Re: EBS or "shelved" alignments
Posted by [Paul C.](#) on Fri, 17 May 2002 08:59:40 GMT
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Thanks, Wayne... I think the thrust of the EV Pro Sound Facts #7 was building spkrs for "pro sound" or commercial PA use, and there, since you have to move them, smaller is better. And in an auditorium or whatever, one could care less about some low end distortion, huh? Esp. when playing rap for crowds used to hearing music on the "state of the art" car stereo systems (boooooom - da - booooooom). Hah!

Subject: "Boutique" statement-horn rappers
Posted by [Wayne Parham](#) on Fri, 17 May 2002 14:13:58 GMT
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I know a popular high-end horn system with woofers like that. Talk about the "Emperor's New Clothes."

Subject: Re: "Boutique" statement-horn rappers
Posted by [Crazy Dave](#) on Fri, 17 May 2002 16:44:42 GMT
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Hi Wayne, I don't know if you saw the posts, but "Romy the Cat" uses a system like you described. You know the one with the red or blue metal-flake plastic radial horns. Dave

Subject: Re: "Boutique" statement-horn rappers
Posted by [Wayne Parham](#) on Fri, 17 May 2002 17:30:04 GMT

That would be them.

Subject: Re: "Boutique" statement-horn rappers
Posted by [Adam](#) on Fri, 17 May 2002 18:05:48 GMT
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Speaking of Romy, I'm not sure about those guys at the high efficiency audio asylum. I've gone over there a few times, being very polite, asking some simple questions about my exponential horn designs, and I tend to get very "dry" responses, if I get any at all. Either that, or someone goes ballistic, absolutely out of his skull nuts. I can't stand that place. Adam

Subject: My question re boomy subs
Posted by [Paul C.](#) on Fri, 17 May 2002 20:08:41 GMT
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One thing I want to ask designers of some car audio (and many home stereo) subs... why, when I perform music, the bass line has different notes in it, but when your subs play the same music, all the bass notes have the same indeterminate pitch? And I have NEVER heard a drummer's kick drum that sounded like THAT! Drummers go to great lengths to damp their kick drum, for a quick Whap! But your "4th order sub" goes "wooooooooooom, wooooooooooooooooom, da wooooooooooooooooom". Why is that? Which "wooooooooooms" are the electric bass, and which are the kick drum?

Subject: Re: My question re boomy subs
Posted by [Wayne Parham](#) on Fri, 17 May 2002 21:17:13 GMT

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No kidding! I listen for stacatto bass notes, and am surprised how many people will tolerate a bass subsystem that turns staccato bass notes into a single tone. They ring all day long! So that's one of my litmus tests for good bass performance beyond simple extension - Does it reproduce staccato bass well? If not, I'll pass.

Subject: Re: My question re boomy subs
Posted by [Paul C.](#) on Fri, 17 May 2002 21:28:25 GMT
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I have no choice now, but to build some folded horns. Please, send the plans for the 10Pi's! Paul

Subject: Re: My question re boomy subs
Posted by [Adam](#) on Fri, 17 May 2002 21:37:50 GMT
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I think you are over stereotyping car audio people, in fact I know so because I am one of those people. Yeah, there are a lot of obnoxious teenagers out there who just want their bass to be as loud as possible and don't care what it sounds like. There is a group like this in every category - home, pro and car. There is a market for it, no denying. That doesn't mean all car audio (or home or pro) has to reflect these principles. There are a TON of subs out there designed for cars which sound absolutely incredible. There are a few that will simply flat-out beat most home good home subwoofers when it comes to sound quality. Crystal's CMP, Adire Audio's Brahma, Ground Zero's plutonium, Image Dynamic's IDMAX, all these subs plus more deliver pretty incredible sound quality. I would encourage you to not make prejudgments on the industry. A lot of home/pro guys do it I have noticed, and it is simply not accurate. Yes, there is a fairly large market for junk car audio, as is there one for pro audio and home audio as well. Please don't take any of this offensively, I'm just a guy who is very active in all three areas, and it gives me a good perspective on the audio industry as a whole because I can see the misconceptions each circle has about the other. Just my opinions. Adam

Subject: Re: My question re boomy subs
Posted by [Adam](#) on Fri, 17 May 2002 21:43:14 GMT
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Oh, the Pluto also has an fs of 26 Hz, so if put in the right enclosures, they can be total beasts for low end output. I also wanted to mention that shop owners will often run subs in undersized or improperly tuned enclosures. Even a lower grade woofer (for pro, home or car design) can made to be sound okay if put in the right box. A lot of enclosures for subs sold on the cheapy, 'teen' market are placed in improperly tuned or undersized enclosures, so it's not always the manufacturers fault, either. Adam

Subject: You have mail!
Posted by [Wayne Parham](#) on Sat, 18 May 2002 02:39:45 GMT
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Subject: Re: My question re boomy subs
Posted by [Paul C.](#) on Sat, 18 May 2002 03:50:56 GMT
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"I think you are overstereotyping car audio people, in fact I know so because I am one of those people." Perhaps I am, but it seems that most car audio enthusiasts care only for volume. And they brag about 140-150 db they produced at the last contest, blowing windows out of cars, etc. I, too, like HIGH END car stereo, it is just that most people have no idea what that really means. I am glad you do. Oh, and on my new car, the same day I made an appointment to have the factory installed junk yanked out, and a nice unit put in. And it doesn't go wooooooooommmmm wooooooooommmmm. Let me hear you say, Amen!

Subject: Re: Thank you!!!
Posted by [Paul C.](#) on Sat, 18 May 2002 03:54:29 GMT
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