Subject: Why a bass guitar enclosure build this way?
Posted by Gabriel on Fri, 08 Aug 2003 12:17:03 GMT
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Hi everyone,I have dig more about bass guitar enclosure, and find out that even the expensive one didn't use a passive crossover, actually the have only hi-pass filter for the piezo? And simply add a different Subwoofer (different in everything, from the size of the driver, the enclosure design, everything!) the manufacture said it will add a bottom end (again no low pass filter inside) and without worrying the group delay and phasing problem? I got explaination from Mr. Wayne Parham, that there will be a problem, but in small room and with few driver I can't ignore that. But in the case of bass guitar cabinet, even for the stadium size concert?Is that OK?Regards,Gabriel

Subject: Re: Why a bass guitar enclosure build this way?
Posted by mollecon on Fri, 08 Aug 2003 22:49:27 GMT
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Putting it bluntly, it's beyond me why anybody would wanna use a sub in connection with a bass guitar... In it's lowest working area, the fundamentals are weak anyway, & the instrument actually only works because of the harmonics (overtones) - this is true for by far most bass instruments, btw. So - if you wanna build a box SPECIFICALLY for bass guitar use, stick to one box with one type of unit (maybe with an added high frequency unit, if you find that necessary). One can then choose if it's gonna be one or two 15", two 12" or even four 10", & by prober box tuning having the box work down to the wished for frequency - the lowest note a normal bass guitar hits is ~42Hz, but as mentioned, this fundamental is weak, & a box with a considerably higher cut-off can still work very well!I'd like to mention that there was a discussion on the HE forum a while back, mainly among bass guitar players, concerning how low they should go. Most agreed that the boxes didn't have to go very low, some even said that it actually tended to muddy the sound if they did, especially at gigs. It was also mentioned by a poster that the best sounding bass gear he ever heard from a stage had a roll-off already below 90Hz - more than one octave over the lowest fundamental...Just my two cents, Gabriel :-) Good luck with your project!

Subject: Thank's, but I still didn't understand:((
Posted by Gabriel on Sun, 10 Aug 2003 12:41:25 GMT
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Subject: Re: what can a single 12 be used in?
Posted by Sam P. on Sun, 10 Aug 2003 14:31:04 GMT
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I have an orphaned (Stephens) 8 ohm Trusonic Full Range Speaker Free Cone Instrumental model 120G I was told is a great Bass guitar driver. Is there a generic style guitar cabinet design, maybe a scoop style, that can use a single 12? Aren't some instrument enclosures "open back", which makes me wonder, what kind of enclosures would be better for a DIY effort? Or maybe to maximize protecting the driver from overexcursion, should it go into a BR tuned to it's Fs? Sam

Subject: Re: what can a single 12 be used in?
Posted by mollecon on Sun, 10 Aug 2003 20:38:43 GMT
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That's hard to answer. You don't, by any chance, have the Thiele/Small parameters for this unit? If not, it's more a matter of experiment what kinda box will work the best. For a 12" instrumental

to 40-50 Hz, & if it got too bass heavy & boomy, simply close the reflex openings... Then you'd have a closed box that probably wouldn't go very deep, but, as mentioned in a previous post, going deep isn't that necessary (or advantageous) even with bass guitar boxes. But why not try

Subject: Okay, let me try...
Posted by mollecon on Sun, 10 Aug 2003 21:29:36 GMT
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Taking it from the top :-)Quote:"...didn't use a passive crossover, actually the have only hi-pass filter for the piezo?"Well, one of the tricks that's in using a piezo is that it doesn't need a cross-over - it cuts off lower frequencies by itself, because of it's electrical/mechanical behaviour. How low the piezo goes depends on model - so you can simply choose one that only works over the area where the LF unit automatically rolls off. Then you have a cross-over less two way system.Quote:"And simply add a different Subwoofer (different in everything, from the size of the driver, the enclosure design, everything!) the manufacture said it will add a bottom end (again no low pass filter inside) and without worrying the group delay and phasing problem?"The only way to make shure the two systems won't interact in a negative way is to use an active (electronic) crossover & let them handle different frequencies. A socalled band-pass subwoofer will have a roll-off of ~12dB/oct over it's working area - but one still will have to make sure the other box don't interfere with it. No matter what the manufacturers say... Having said that, I do recall having seen bass systems comprised of a box with four 10" units placed on top of another box with one 15" (or maybe 18"?) unit - but how they work, I don't know. If I know musicians, they may well ignore if

there are problems of interferrence & such & simply run them in parallel, probably with two different amps. To musicians, it's more a matter of 'sound' - they usually don't care too much about all the tech problems the hifi/audiophile/whatever crowd finds important. The solution with two boxes makes ot possible for the musician to only take one box (prolly the 4X10) to smaller venues, & then supplying it with the 15-18 box a bigger ones.Quote:"But in the case of bass guitar cabinet, even for the stadium size concert?"Huh? At such large venues there's usually a big PA system solely devoted to directing sound to the audience. The people on stage then have various monitor speakers to be able to hear themselves & the rest of the band proberly. Without being an expert, it's my impression that the bass players at such venues simply use their own equipment (including speaker!) as their 'monitor' - if they (the bass players I mean) play such large gigs they usually have systems of their own large & loud enough to be able to 'compete'. So if that's the direction you're goin', be ready to build something big! Or do as described above, build two smaller ones - I'd still go for making two that are alike, though.And I still don't see why you wanna complicate things overly with a 'sub'...

Subject: Re: Okay, let me try...
Posted by Gabriel on Mon, 11 Aug 2003 15:28:43 GMT
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Hi Mollecon,First I want to say thank's for all of your help.All of what I asked is because of bad experience. I already have Epifani 2X15, and before that I used Eden 4X10, SWR 2X10. Actually I never like the sound from my cab:(((The only sound that always in my mind is from the far field monitor (the brand is Quested), that I can only hear when I'm in recording session. Friend of mine that familiar with speaker things suggest me and also teach me about hi-fi or hi-end system. And then I see that all of the speaker that I ever used is completely different with the hi-fi, I really want to know why. Another things, when I gig in medium/large venue, I often lost my bottom, but when I cranked up the bass EQ, the soundman is getting mad and told me to turn down, lately I know that it because of the delay. I really want to build my own rig that can sound like what I want, and also eliminate all the problem in the gig.And yes I know that in the stadium size, the sound will handle by the main speaker, not my cab, but the delay problem, in the bigger venue it will be more a problem, bigger venue=I need more bass to monitor myself, and more bass is more problem even in the stage (not only in the front row audience). So What I think is the better the speaker, it will have no delay, especially in the sub (when all of my problem arise). And it's also strange using 1X15 with 4X10 without any problem. I have learned a little about phasing, and in my opinions it will be a big problem with stacked setup like that.Thank's again

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Subject: Re: Okay, let me try...
Posted by mollecon on Tue, 12 Aug 2003 14:48:31 GMT
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Quote:"...speaker that I ever used is completely different with the hi-fi, I really want to know why."Well, the typical 'hifi' speaker & the typical instrument amp speaker are different for various reasons. An instrument speaker have to be durable & able to withstand hard use & at the same time be able to play loud enough, at least to compete with acoustical instruments (Which in themselves can be surprisingly loud!). So usually, instument speakers are pretty large & efficient, with the drivers having proberties to meet the demands - furthermore instrument speakers (& amps) often have a certain 'sound' that acts as a prolonging of the sound of the instrument itself. The typical 'hifi' speakers are much smaller & at least try to be neutral in their sound, + be able to deliver bass from small boxes. And so, they are also much less efficient than most instrument speakers. There's a lot more to it than this, but this is the short version. :-)A typical driver (speaker unit) for instrument use will be quite large & have a light diaphragm & a stiff suspension.A typical driver (for bass/midrange) for hifi is smaller & have a heavy diaphragm & a soft suspension.I should add that the people you meet in this forum & the High efficiency forum to a certain extend contradicts the above! They often use professional drivers & correspondingly large boxes in order to achieve a more dynamic sound, &/or be able to reach reasonable loudness levels with small tube amps. They still try to achieve a neutral sound, though I do think it's fair to say that they probably emphasize other aspects of the sound than your average audiophile...Quote:"...lately I know that it because of the delay."Quote:"....and also eliminate all the problem in the gig."Uhhh - as far as I can see the problem simply is that the sound from your rig mixes with the sound from the PA when you crank it up - but because of the distances in question, the sound from yours arrives a bit later & screws up the sound heard by the soundman (& audience!). It's a bit hard to see how that problem can be solved - I mean, regardless of the type of rig you use the problem will occur as soon as you turn the volume up loud, right? & that's the same also if we only talk bottom end.It's true that the idea of a stacked set comprising one 4X10 on top of a 1X15, covering by & large the same frequencies looks terrible from a hifi point of view. But it might well work fine as an instrument speaker! You cannot compare the two uses totally, you know.I really think you should go into the High Efficiency Forum & post a message called "Bass guitar speakers - help" or something. As I mentioned, several of the posters there are bass guitarists AND very knowing about the technical aspects of speakers, too. Be sure to make it as clear as possible what your problems are, also mention what gear you like/dislike & what you want a solution to do - they are a helpfull bunch, & the more specific you are, the better help they can give!The High Efficiency Forum is a part of this site & can be accessed from the main page - there's also a link to it here:

HE-forum

Subject: Thank's Mollecon (nt)
Posted by Gabriel on Tue, 12 Aug 2003 22:55:03 GMT
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