Subject: Audio Nirvana Speakers
Posted by FredT on Sat, 26 Mar 2005 21:40:34 GMT
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Has anyone heard these full range speakers? Looks too good to be true for building a budget hi efficiency single driver speaker. The 96dB 8" ($118/pr) is at the same price point as the 6" Fostex FE166E, and enclosure plans are included with the drivers.Audion Nirvana / Fostex specs compared at http://www.commonsenseaudio.com/comparison.html
Audio Nirvana Speakers

Subject: Re: TL Help!!!!
Posted by ronbrady on Sun, 27 Mar 2005 05:37:49 GMT
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Fred---Be the first one on your block to buy them, build a box, tweek the hell out of it write up what you think. At that price you should seriously consider a new home theater set up starting with the mains.I've been thinking about it but I haven't the work space or time right now.Best wishesRon Brady

Subject: Re: TL Help!!!!
Posted by FredT on Sun, 27 Mar 2005 10:58:54 GMT
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I sent David a note inviting him to exhibit at the GPAF. It's only a short hop down the Interstate from St Louis to Tulsa. I hope he'll show up with a pair - he would get lots of free publicity from participating in the event. Even if he doesn't, I'm intrigued and just may build a pair of his largest recommended enclosures (the 2.5 MKII Twin Port) with the 8" drivers. These probably would be a good match for my Paramours amps.

Subject: Nirvana drivers
Posted by ronbrady on Sun, 27 Mar 2005 14:48:34 GMT
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Hi FredThat is probably a great idea to have him attend your audiofest. Maybe you could talk him into loaning you a pair for review. The specs compaired to their fostex counterparts makes them look like almost clones. I entered the six and eight inch specs into WINisd and ran some sims for bass reflex and they look nearly identical to the fostex guys.I personally like the black cone look

better than the creamy white of the fostex but speakers are less for looking at and more for listening to. I wish I could attend but I am just too far away (utah).Best wishesRon Brady

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Subject: Re: Audio Nirvana Speakers
Posted by Poindexter on Sun, 27 Mar 2005 15:48:45 GMT
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I've been looking at them too. The six incher looks good for a TL, my fave load of abuse, if a little shy in Xmax, which might limit its max good volume; Fostii suffer from this as well. You might want to watch out for Mr. Dicks' recommended boxes. I had a couple guys post me from my site who had put the Fostex 206 in his load and were wondering what they might have done wrong, since they were not experiencing the thunderous bass he had described. I think it very unlikely that you will get Big Bass from an eight with a Qt of 0.19 in a vented box; you can run the sims in WinISD yourself. This looks like a horn driver to me. The six looks like an overall better driver for a VB or TL, even with its higher Fs.2¢,Poinz

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Subject: Addendum.
Posted by Poindexter on Sun, 27 Mar 2005 15:51:41 GMT
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I have had good luck generally using drivers with Big Motor Syndrome, and both of these certainly have a bad case of that.Poinz

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Subject: Re: Nirvana drivers
Posted by lon on Sun, 27 Mar 2005 21:14:50 GMT
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Lots of talk about these over only a --whatsits?--- $20 savingsand unknown shipping costs. There's been talk about theseover in the Full Range driver forum and it's cooled offquite a bit. Still the big magnet/motor is appealing in a big iron sortof way. lon [yearning for the old RS1197 days of $5.00 product that only the experimenters knew about]

Subject: Re: Audio Nirvana Speakers
Posted by roncla on Sun, 27 Mar 2005 23:29:50 GMT
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All depends on the Qts of the driver and the efficency. Sorry but any body that reccomends a low Qts driver in a BR alingment needs to study physics. It can work in a balanced system with added series resistance(loss in efficency) or a current drive (added parallel resistance, same loss in efficency in theory) but if the noted Qts is within the order of .19 then it either needs BHL or some sort of compensation for the lower Qts. Like my pet theory (which i really need to find the time to investigate) of loading the driver to the proper amount to allow low Qts drivers to operate efficently in BR and MLTL alingments without the efficency robbing effects of series resistance. As MK stated to me " think outside of the box". Its good advice.ron

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Subject: Re: Audio Nirvana Speakers
Posted by FredT on Mon, 28 Mar 2005 01:51:29 GMT
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You make some very good points. There's a review of the 2.5 mkII Twin Port speakers with Lowther PM6C drivers in the April May issue of Sensible Sound. Different and higher quality drivers but the same ported enclosure. As you predict, the bass is nothing to write home about but the system does have some other redeeming features. David can't make it to the GPAF so someone will have to build a pair and review them for us. Any volunteers?

Subject: Link to the review
Posted by FredT on Mon, 28 Mar 2005 01:53:05 GMT
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http://www.commonsenseaudio.com/lowther.pdf
2.5 MKII Twin Port Review

Subject: Re: Audio Nirvana Speakers
Posted by akhilesh on Mon, 28 Mar 2005 17:27:44 GMT
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I would like to see frequency curves on these before I bought them. If you do buy them, do let us know your objective/subjectie impressions!-akhilesh

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Subject: Audio Nirvana versus Omega Speakers

Posted by FredT on Mon, 28 Mar 2005 23:46:18 GMT
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Would anyone expect the Audio Nirvana drivers in their recommended enclosures to perform differently from Omega speakers? The Omegas use Fostex drivers, but the AN's have similar TS parameters. Some of the AN enclosures are quite a bit larger.
Omega Grande 8

Subject: My thoughts on new full range drivers coming out
Posted by akhilesh on Tue, 29 Mar 2005 12:17:22 GMT
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I laud David Dicks for starting his own brand of drivers. I hope they are a good alternative to Fostexes.when buyiong any driver, one must look at the following:1. How accurate are the T/S params (measured versus actual). For example, Lowther is known to have actual T/S params WAYY off from pulished ones. 2. What isthe frequency curve of the driver?3. What is the distortion produced by the driver?4. What is the Xmax of the driver?All of these are important. I would stress actual values versus publsihed ones in all cases. If anyone buys Nirvana, drivers, please do publish your experiences measurements. Fostexes tend to behave as published. Lowthers do not. Lots of material on actual experiences with lowthers existis, and I am looing forward to seeing people's actual experience with the nirvana driver. Also, I really hope Dicks can come down to GPAF, since then we can all experience & report on the nirvana drivers. -akhilesh

Subject: Took The Plunge
Posted by FredT on Tue, 29 Mar 2005 20:36:32 GMT
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Curiosity got the best of me and I ordered a pair of the 8" Audio Nirvana drivers with plans for the 2.5MKII Twin Port enclosures. Needless to say I will not have these completed by the Great Plains Audio Fest and wouldn't have room for them in my compact pickup truck anyway. But if they sound halfway decent I'll take them to the next Lone Star Bottleheads meeting that we hold in Dallas, and anyone from Tulsa who wants to hear them can easily drive down and join us. If they suck you'll never hear another word about them from me:)

Subject: Re: Took The Plunge
Posted by roncla on Tue, 29 Mar 2005 21:25:06 GMT
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If they suck you'll never hear another word about them from me:) Actually we all do.Another enclosure alingment may be necessary. Really need to establish hard T/S parameters and a curve for those drivers.ron

---

Subject: Re: Took The Plunge
Posted by akhilesh on Tue, 29 Mar 2005 21:40:17 GMT
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Hi Fred,Try a 1 cubic foot sealed box, tuned to 60HZ. it works for the Fostex 206. Orif you like, order their 1.3 cubic foot box, that one is better suited, in my opinion, to the fostex fe206E. The 2.5 will, based on theory, give boom with a depressed upper bass. This is assuming the T/S params are indeed similar to the fostex fe206e, which is an open question till a bunch of folk measure and report. thanks-akhilesh

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Subject: You Are Correct
Posted by FredT on Tue, 29 Mar 2005 22:17:55 GMT
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Assuming the advertised T/S parameters are correct, WinISD tells me in a 2.5 ft box tuned to about 56hz the response will dip down to about 3.7dB at 100hz. The Fostex Fe166E in that same box would be down about 4.5dB. So if my target were smooth response with no midbass dip, as you guys have pointed out, neither of these drivers is a good candidate for a 2.5 ft ported box. But I'm still curious about them, and now that I am retired and have a fully equipped workshop and nothing to do all day but build speakers, building a 2.5 ft enclosure really is is no big deal. I can try it, and if I don't like the way it sounds build a different enclosure.

Subject: gainclone
Posted by ronbrady on Wed, 30 Mar 2005 05:25:13 GMT
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Way to go Freddy!!Some how I thought you could be talked into springing for a pair. I would be very curious to see how they measure up to their published specs and also would like to see a frequency curve for them. Are you geared up to make those measurements or should we start asking for volunteers to do it while your glue is drying.best wishesRon Brady

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Subject: Re: Took The Plunge
Posted by Kim Schultz on Wed, 30 Mar 2005 08:27:59 GMT
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Great Fred I´ve wanted a pair of the 6" since I saw them, but before hearing some more about them, I´m not putting down that kind of money to have it shipped to Denmark.Please let us know how they turn out.

Subject: I'll volunteer to measure TS params if someone ships me a driver
Posted by akhilesh on Wed, 30 Mar 2005 13:58:19 GMT
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I'll volunteer to do so (i'm basically going to arm twist Wayne into helping me with this equipment & knowledge). We've done it twice already, so no problem. Just let me know on email if you would like ot ship me the driver. I'll cover the cost of shipping it back to you. -akhilesh

Subject: Re: You Are Correct
Posted by GM on Thu, 31 Mar 2005 00:06:23 GMT
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Greets!If the specs are close, adding a total of 8 ohms series R will 'fill' a 2.50ft^3 box tuned to Fs. Add BSC as required. Looks really good in a ML-TL.GM

Subject: Here's Where I Am
Posted by FredT on Thu, 31 Mar 2005 13:48:07 GMT
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This has been a good thread which has produced several useful suggestions, some of which I probably will implement in the future, but for now I plan to build the enclosures to David's specs and hear how they sound after a breakin period (I assume the same 100 hours that's recommended for Fostex drivers applies to Audio Nirvana drivers too). Sometime in the future I hope to do a side-by-side comparison with some other single driver speakers including Omega speakers, Lowther Medallions, and Third Rethm speakers that are owned by fellow members of the Lone Star Bottleheads. I have found this kind of comparison using a small group of experienced listeners is an especially useful exercise because it gets comments from listeners who are not biased by ownership of one or the other (as I tend to be). I'll post a summary of my conclusions.

Subject: Re: You Are Correct
Posted by lon on Sat, 02 Apr 2005 03:29:25 GMT
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Listen to Greg. He knows his MLTLs. Glad to see you on here btw. My build of your MLTL for FostexFE127e is getting finished off. I fiddled with these for quitea while-- no test equipment, all by ear. Bare inside. 2x6 inPVC port with your measures.

Subject: Re: I'll volunteer to measure TS params if someone ships me a driver
Posted by lon on Sat, 02 Apr 2005 03:33:12 GMT
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I have followed this discussion of the Nirvana speaks fora while now. Would a test of both units of a stereo pair be necessary to prove any variances in manufacture?

Subject: Re: I'll volunteer to measure TS params if someone ships me a driver
Posted by akhilesh on Sat, 02 Apr 2005 14:09:43 GMT
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HI lon,I agree. a test of both will actually be better. Many driver manufacturers do show variances in manufacture, and a test of a pair would help. If someone wants to ship me a pair, i can testboth. hn -akhilesh

Subject: Re: You Are Correct
Posted by GM on Sun, 03 Apr 2005 06:46:22 GMT
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Greets!Bare?! Anyway, I've done several different designs, but none I kept specs on require a 2" dia. vent, much less 6" long, so I'm curious what you built and the room, etc., details that would dictate such a vent.GM

Subject: Re: You Are Correct
Posted by lon on Sun, 03 Apr 2005 20:31:12 GMT
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I saw the original MLTL design that Bruce Pea made for the Jordan 92s and he sent me some pics. When we originally discussed this, you gave the dimensions and I averred that this was the size (in general)of partical board shelving. So the box is that shape, the FE127is mounted 8" down from the top and chamferred. No stuffing, so it's bare inside. Exact dimensions are: 7 3/8 w x 23 in. h x 4.5 in. d all inside dimensions. I used a couple of different pieces to make the bottom:drilled out 1 in. hole and used some plumbing parts to make various port lengths. Also tried getting the port length to specby using a sandwich of 2 particle board pieces to get 1x 1.125in. At least one of the original MLTLs have the port for the Jordan 92s extending out the bottom and a baffle at 45d built into floor-standing design with the port extension masking the baffle. Well, I only had those pieces of shelving which did not need a lot more cutting to get to finished size. I did my listening tests this way: You know those $10 screw together melamine lamp stands that have3 shelves and are about 11x11x30 in high that they sell at every discount store you can name? Ok. I used my 2 in hole saw thatI got for the PVC and drilled through the center of the topshelf. So the port slides through that and _e' voila_speaker and stand. To test I listen to organ recitals, classical and jazz shows, and dvd. What I was getting with the stubby small ports was a verymuddy lower end. This is greatly improved with the 2x6 port.Clarity of string bass and even those boomers on the organrecital come through for me in this arrangement. It's notscientific. As to stuffing, I tried what you had mentioned which wasputting something directly behind the driver, but anythinginside seemed to interfere with that clarity I was looking for. So the end result might be that the FE127e is losing something at the lower end but the overall effect is the best I've foundfor the music. I do not have a shop but I remember you helped me a fewyears ago over in FRDF (Full Range Driver Forum by James Melhuish). That same pair of FE127s became my firstproject: modifying some mini speakers from Nakamichiby mounting the Fostex, plugging up the port hole and knocking outthe backs. I ran that set for a pretty long time atthe computer. If I had the proper port baffle set up, I think thatthat would be the best conclusion to the project. After allthe tweaks are found, I'd like to do this build as morethan a prototype-- in poplar perhaps. The room is 14x18--pretty big-- some old style apartment witha large living area. No wall coverings. I am not knowinghow the walls play into this concept very much. While you're here I'm wondering what your opinionwould be of the Tuba 24 over in Bill Fitzmaurice's Forum. Thebuilders there rave about them. The Tuba 18 is a project recentlywritten up for _audioXpress_. These subwoofers get a lot ofhorn path in not very much space. Lastly, Bruce mentioned you had discussed the "thump test"with him to test a box. Could you describe that for Audioroundtable?
Project page for Tuba 24 *pics*

Subject: The Audio Nirvana Drivers Arrived Today
Posted by FredT on Mon, 04 Apr 2005 22:35:44 GMT
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They arrived today in good condition. Very similar to the Fostex FE-166E's I used in the Voigt Pipes. Seems to be the same frame, but the AN 8" are quite a bit heavier than the Fostex 6.5", even a bit heavier than the equivalent 8" Fostex. So far so good. The enclosure plans are included too. Now, is everyone sitting down? I don't want anyone to faint and sue me. The 2.5 ft enclosure has two ports that are 3" diameter by 3/4" long - the thickness of the enclosure material.

Soooooooo, these things are tuned to about 71hz. Theoretically this should provide about a 2dB dip at 140hz and a 3dB peak at about 70hz, dropping off the edge of a cliff below that. These may be box speakers, but David definitely is thinking outside the box. Kinda reminds me of when Galileo said the earth isn't at the center of the universe, or when I announced to my devout old school Catholic parents and my Great Aunt, Sister Victoria, that I was marrying a Protestant girl. I like it.I still plan to build these to spec and listen with an objective mind. I can even experiment with longer port lengths with pieces of 3" PVC pipe that I already have in the garage from building the Eros MKII's. So many speakers, so little time.

Subject: Re: The Audio Nirvana Drivers Arrived Today
Posted by Wayne Parham on Tue, 05 Apr 2005 07:55:37 GMT
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Phil Wilson has a pair of David Dicks' 2.5ft3 cabinets with Fostex 206e's in them. They sound pretty good. As you've described, once you get south of 70Hz there's nothing, but above 100Hz they are very nice little speakers. I'm not sure it makes sense to push a full ranger down an octave lower, what with xmax and intermodulation coming into play. So maybe 70Hz f3 is a good design choice for something like that.

Subject: Re: The Audio Nirvana Drivers Arrived Today
Posted by FredT on Tue, 05 Apr 2005 08:51:08 GMT
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Actually, the sound I'm expecting, with room reinforcement, shouldn't be too different from Jim's Voigt pipes. The in-room measurements of the pipes indicated a small peak somewhere between 60 and 70hz falling to nothing below that. You're right about not not pushing a full ranger - there are areas where they give you a lot (speed and imaging) and other areas where they don't have as much to give (bass extension & impact, high sound levels), and if you feel you need those you might be better off using a subwoofer.

Subject: Re: The Audio Nirvana Drivers Arrived Today
Posted by Wayne Parham on Tue, 05 Apr 2005 09:07:07 GMT
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They do sound a lot like the pipes you sold Jim. Same driver, very similar tonal balance and character. A little different in the lower mids, as you might expect. But overall, they sound very much alike.

Subject: Re: The Audio Nirvana Drivers Arrived Today
Posted by colinhester on Wed, 06 Apr 2005 14:46:55 GMT
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Please keep us up to date on the progress. I'm dying to know how they sound. The price on the 8" is very attractive. If you give a thumbs up, I'll really consider buying a pair.....Colin

Subject: I must ask about stuffing....
Posted by bernieclub on Fri, 08 Apr 2005 14:55:39 GMT
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I've wondered why stuffing the cabinet seems to take something away from the midrange...intuition tells me anything that reduces reflections coming back through the cone can only clean things up, so why the lack of "life"?Bernie

Subject: First Impressions
Posted by FredT on Fri, 08 Apr 2005 18:43:02 GMT
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I completed them today and hooked them up to the Ella amp. My first impression, with no breakin whatsoever, is they sound very "shouty" and bright. A quick check of one speaker with the Radio Shack meter set at the listening position indicates very uniform response from 500hz to 3khz. Below that they fall off about 5 to 8dB, with a rise between 80 & 60hz and falling off quickly below that. Above 3khz they rise a few dB, especially between 4 and 8khz. I understand Lowther and Fostex drivers tend to sound strident for the first 100 hours or so. The same must be true of the Audio Nirvana drivers, so I will not report back until they have some time on them or I have heard a dramatic change.
 Unfinished 2.5 MKII Enclosures

Subject: Re: I must ask about stuffing....
Posted by Bob Brines on Fri, 08 Apr 2005 19:30:29 GMT
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I've had this discussion any number of times, although usually in the context of baffle step correction filters.IMO Reflections off of the back of the cabinet through the cone are in the 1-2kHz range. The reflections put a bump in the frequency response of the speaker in this range. People like the effect. It gives sparkle to the sound of the speaker. Removing the reflections give a sound

more true to the recording. It lacks the extra sparkle. It lacks "life". The same happens with. By cutting the treble to match the bass, you remove the exaggerated mids and the sound then lacks "life".Don't get me wrong. If you like the extra "life" in the sound of your speakers, by all means go for it. Just understand where it is coming from.Bob

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Subject: Thankyou!
Posted by bernieclub on Fri, 08 Apr 2005 20:54:07 GMT
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Subject: Re: First Impressions
Posted by Wayne Parham on Fri, 08 Apr 2005 22:09:19 GMT
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They sure look nice! I was in Woodcraft yesterday, and they had some walnut burl veneer that would sure look luscious on those cabinets...

Subject: Re: First Impressions
Posted by ronbrady on Sat, 09 Apr 2005 13:33:35 GMT
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Wow Fred! you move pretty fast for a senior citizen. Those cabinets are very interesting. They are larger than I would have expected for the simulations that I ran on the driver. I assume that it is the one recommended by audio nirvana. I am glad you took the initiative and jumped into these new speakers with both feet. I and many others will be waiting to hear your impressions during and after the break-in period. But for right now maybe you could give us your impression of the speakers appearance and build quality etc.Nice work Fred!!Ron Brady

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Subject: Re: First Impressions
Posted by Manualblock on Sat, 09 Apr 2005 16:36:43 GMT
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I spoke with David on the phone. Nice guy but he uses the cabinets he originally designed for the

Lowthers. I asked if maybe these drivers should be modeled for a more dedicated enclosure and he claims ;Modeling is a waste of timeTheil-Small parameters tell you nothingThese cabinets sizes fit all efficient drivers.Has anyone encountered this line of reasoning yet?Not trying to be critical I really am curious about how people feel about his theories.

Subject: Re: First Impressions
Posted by Martin on Sat, 09 Apr 2005 17:31:13 GMT
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David is a nice guy and I have bought several pairs of drivers from him. Very enthusiastic about his products and he has taken a lot of criticism for his positions. He is very upfront about his beliefs. But, I definitely do not agree with David.If you look at the 8" full range drivers he sells, they do have a lot in common. Typically they have a fs between 50 and 60 Hz, a Qts between 0.20 and 0.35, and a Mms between 10 and 15 gm (so the Vas values are also close). This includes the Lowthers and the Fostex drivers. If you put any one of these drivers in a ported enclosure tuned to say 55 Hz, the final performance of the drivers will be close. The enclosure only reinforces the bass below 100 Hz. The amount of bass produced will be a function of the Qts, low Qts will have weaker bass output. His enclosure will work under the right conditions but they are probably (maybe I could claim definitely) not optimum.Martin
Quarter Wavelength Loudspeaker Design

Subject: Re: First Impressions
Posted by Wayne Parham on Sat, 09 Apr 2005 18:29:10 GMT
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Yeah, I can't get behind that kind of reasoning either. It's like the stone age or something. But regardless, if the product is good and sounds good, it might be an attractive alternative to Fostex and Lowthers. Maybe better cabinets can be made though.I think it would have been good for him to have displayed his products at GPAF. Maybe next year he'll be able to make it. It's only a five hour drive for him, and it would let people hear the products instead of just read about them.

Subject: Re: First Impressions
Posted by Manualblock on Sat, 09 Apr 2005 19:30:17 GMT
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Thanks Martin and Wayne; I know he believes that the Q value has no real meaning because I asked that specific question. And he did state his position exactly as you say Martin; that most of his drivers have the similar Fs and efficiency rating, with lowish xmax. I had asked about the small

8" P audio but just could not see it performing well in an off the shelf cab of that size.

Subject: Re: I must ask about stuffing....
Posted by lon on Sat, 09 Apr 2005 20:23:02 GMT
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I have come to view speaker cabinets as instruments: a guitar bodyfor instance. This is not applicable to all designs. And I wonder if the cone breakup that I hear may come from what you are describing.Could be. Maybe I'm just going deaf.I don't have a chance to hear anyone else's homebuilds.Last night I was at the local symphony (in volunteer usher service)and I was trying to hear what the concert hall would sound like from2 little speakers in MLTL boxes. I decided I'd never be playingup to those volume levels. The concert hall is the concert hall andhome is home. There was some real low notes from a section of bowed bass thatwas very effective. I don't know if I could ever get that low and quiet at the same time.

Subject: Enclosure Size and Tuning
Posted by FredT on Sun, 10 Apr 2005 00:28:21 GMT
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The enclosure is 2.5 cu ft with two 3" ports that are 3/4" long (they're just cutouts in the baffle). So he's using a 71hz tuning frequency, far above what I would have expected. It actually sounds very warm in a nice sort of way, with no bass extension below 60hz. David tells me that people who have listened to his drives with lower tuning all prefer the higher tuning because of the increased warmth. But the characteristic that's bothering me has nothing to do with the bass response - it's a peak of about 10dB between 4khz and 8khz that imparts a "shouty" quality to these drivers. My Fostex drivers sounded bright when I first got them, but I don't recall them sounding this bright. In all fairness, I need to give these drivers some breakin time before I judge them. The build quality seems similar to the Fostex FE series drivers, it may even be the same frame, and the AN drivers are a bit heavier than the Fostex because of their larger magnets.

Subject: Re: Enclosure Size and Tuning
Posted by Martin on Sun, 10 Apr 2005 00:52:23 GMT
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Are you listening to the speaker directly on axis? Sometimes listening a little off axis can tame this type of problem as the divers become directional and the off axis response starts to fall off.Martin
Quarter Wavelength Loudspeaker Design

Subject: Re: First Impressions
Posted by ronbrady on Sun, 10 Apr 2005 04:33:04 GMT
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Hi FredI took some time to run a few simulations for you in WinISD for a bass reflex enclosure of 2.5 cu. ft. tuned at 71Hz for the Nirvana 8" using the published specs and I must say that it is one of the most unattractive alignments for that driver and box combo. There is a -2db hole from 100-200Hz and a +3db peak at 75Hz. I continued to run the simulation to try and fit that driver to that box and the best alignment I could come up with is a port tuning of 41Hz which would use just one of your 3" ports and would be 2.25" long but the worst part is that the qes must be changed by adding an 8.5 ohm resistor in order to get the qts up to .40 which is about the minimum for this box and driver combo. Unfortunately the addition of 8.5 ohms of series resistance will throw away a lot of effiency but for that size box I don't see any easy alternative. I could run some sims for a smaller box for you if you like but it looks to me that this driver really would work best in a horn style enclosure. I hope that some of these quys will be able offer you a better solution.Best wishesron brady

Subject: Re: First Impressions
Posted by FredT on Sun, 10 Apr 2005 08:42:54 GMT
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I did the same simulation and got the same 2dB hole and 3dB peak. But when I have measured the actual in room response of other speakers from the listening position I have found much greater variations, especially from room to room. So while it looks bad in theory it doesn't really sound bad to my ears, but you're right about the fact that no bass reflex alinment works well for these drivers unless you add resistance.

Subject: Toe-In
Posted by FredT on Sun, 10 Apr 2005 09:20:24 GMT
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Thanks for the suggestion. Yes, I have found the peak is minimized using just a bit of toe-in. This seems to be the best placement for reducing the brightness without compromising the soundstage. In all fairness to these drivers I need to give them more break in time. Lowther and Fostex drivers are reputed to sound overly bright and bass shy for a fairly extended break in period, and I would expect the same from these.

Subject: Re: Audio Nirvana Speakers

Posted by Scott_M on Sun, 10 Apr 2005 15:32:05 GMT
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Fred,I was looking to purchase some fostex 167e drivers and Madisound was out of stock for a month or two - so I took a chance and ordered the Audio Nirvana 6.5" ones instead. I haven't had a chance to set up a baffle to mount them in so I can't comment on their sound, yet, but am very interested following your progress as your drivers break in. For me, I already have a rear loaded horn for my 206e drivers, so I wanted something I could build a small ported box enclosure for.Scott.

Subject: Re: Audio Nirvana Speakers
Posted by FredT on Sun, 10 Apr 2005 23:54:23 GMT
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Did you order any speaker enclosure plans with them? They seem to fit the 1.3 cu ft enclosure nicely. If I did this correctly you could use two 2-7/8" id by 5" long ports to achieve a tuning freq of 61hz. This gives a -3dB point of about 56hz, with a peak of less than 1dB at about 72hz. Regardless of what alignment you use I will be interested in knowing whether you are hearing more brightness in the 4-8khz range than you heard with the 206E's when they were new.I'll definitely post a follow up, but it will be a while. For now I will say that the concern about the bass alignment is valid, but a variation of +3 / -2dB really isn't a big concern to me. The actual in-room response I have measured on speakers that are known have very flat anechoic response curves has varied by much more than this, especially below 200hz. As I mentioned in a previous post, in all fairness to these drivers I need to give them 100 hours of break in time and then do a critical evaluation.

Subject: Brightness Tamed
Posted by FredT on Mon, 11 Apr 2005 16:23:23 GMT
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I mentioned in a previous post that I was hearing some unnatural brightness that distracted from the music. It turns out I had run out of acoustic insulating material and hadn't put any on the interior side panels. Apparently this was causing a reinforcement/ cancellation effect that produced comb lines at the listening position - moving my head a half inch to either side would turn Nora Jones' voice from mellow to unnaturally siblant. I installed the damping material today and that fixed the problem. They are still bright, but not so much that the brightness distracts from the music. They now sound very much like I recall the Fostex drivers sounded.

Subject: Re: You Are Correct
Posted by GM on Wed, 13 Apr 2005 17:11:24 GMT
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Greets!I don't remember what dims I posted, but the basic T/S max flat comes closest to what you built though the vent is 1.5" diameter x 1.125", not 1" diameter, which dramatically lowers Fp so LF output should be minimal. I assume it sounded 'muddy' because the driver/vent was being severely overdriven at even modest SPLs. With no damping there's also some comb filtering with the vent up beyond 1 kHz.With the recommended vent there's much more mid bass, but less LF extension, and the comb filtering is much higher in amplitude with no damping.With a 2" x 6" vent, Fp is down where the 1" x 1.125" vent put it, though it's better damped due to the greater vent air mass and now the comb filtering is truly excessive due to its length so little wonder it sounds 'clear', what with the high amplitude 'spiked' harmonics. Like BB opined, accurate reproduction it ain't, but you seem to need to hear the kind of dynamics that separates a speaker system from sounding 'accurate' to one that sounds more 'live'. To get both requires a much more serious system than a couple of small FR drivers.....Anyway, based on your apparent performance preferences, an optimized (but unstuffed) Voigt pipe may be the 'best conclusion' for this speaker project.WRT the Tuba, I have a super slow dial-up so didn't wait for the link to load, but I gather it's a folded radial design with too small a mouth, like Tom Danley's LABhorn. If so, then without a corner or at least a wall/floor junction to load it, then significant EQ will probably be required to shape its FR. Also, the long pathlength will probably require digital TD to get it ~in step with the mains.Still, with the advent of small, high linear excursion drivers, reasonably compact upper LF/midbass horns can be realized, so assuming you're more interested in a 'fast' upper LF/mid-bass system to fill in below a FR system rather than a true sub system, then I imagine the Tuba will get the job done. 'Thump test'? Do you mean 'click' test? If so, it's just a little 1.5V battery powered ckt. using a DC rated SP-DT toggle switch to make/break the driver. With a typical minimally lined or stuffed vented cab it can still be somewhat underdamped (peaking at Fb, or worse, higher up if severely underdamped) so when the driver is switched it will tend to 'boom' (AKA 'ring') to some extent. Damping the vent till all you hear is just an amplified 'click' means it's critically damped, i.e. make it somewhat aperiodic, so any more just rolls it off more (overdamped). Note that a resistor equal to whatever the amp's output resistance is required between the switch and speaker for best results. I don't know who originated it, I first saw it in a mid '60s DIY speaker building book written by a couple of Altec employees. GM

Subject: Re: First Impressions
Posted by akhilesh on Wed, 13 Apr 2005 17:53:47 GMT
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As usual, I agree with Martin & Wayne. The thiele/Small params are one of the few really good theories out there for speaker design, and are widely considered to have moved music reproduction from vodoo art to science, at least in speaker design (which arguably is a large contributor to music reproduction). I would love to hear a set of lowthers, so will someone PLEASE bring a set to GPAF!!!???thanks-akhilesh

Subject: Dialog on MLTL using F127e continues [Re: You Are Correct]
Posted by lon on Wed, 13 Apr 2005 18:48:53 GMT
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I reposted this whole message as a dialog:Greets!I don't remember what dims I posted, but the basic T/S max flat comes closest to what you built though the vent is 1.5" diameter x 1.125", not 1" diameter, which dramatically lowers Fp so LF output should be minimal.--Dims are given at FRDF.I was just going through my hand notes on that stuff... lessee:my hole borer is 1.5 inches and that was the port I played with. I re-measured and it's 1.5 diameter with various lengths tested. What would moving the port do-- front, back? --I assume it sounded 'muddy' because the driver/vent was being severely overdriven at even modest SPLs. With no damping there's also some comb filtering with the vent up beyond 1 kHz.With the recommended vent there's much more mid bass, but less LF extension, and the comb filtering is much higher in amplitude with no damping.--With a 2" x 6" vent, Fp is down where the 1" x 1.125" vent put it, though it's better damped due to the greater vent air mass and now the comb filtering is truly excessive due to its length so little wonder it sounds 'clear', what with the high amplitude 'spiked' harmonics. Like BB opined, accurate reproduction it ain't, but you seem to need to hear the kind of dynamics that separates a speaker system from sounding 'accurate' to one that sounds more 'live'. To get both requires a much more serious system than a couple of small FR drivers.....-- No doubt. Playing at low levels all the time might be a problem too and the 'listening room' leaves much to be desired.I had stuff 'dry clamped' for quite a while and can hear slightdifferences now that the glue-up is complete. Inside seams are caulked, no special wire. The 2x6 ports are not glued in. I can still monkey with that as needed.One of the problems I'm dealing with may be solid state amplificationequipment and source material that varies widely. Or I might be going deaf.
--Anyway, based on your apparent performance preferences, an optimized (but unstuffed) Voigt pipe may be the 'best conclusion' for this speaker project.-- I yes, I've wanted cut a Voigt for almost a year: toolsand materials preventing a lot of progress: I want to do Poplarcarcass. And I bought 2 of those full range Rolands from Ebay.Those are 8 in. I want to put those in Voigts. Nobody over at FRDFhas made specs for those but the magnets are pretty small.--WRT the Tuba, I have a super slow dial-up so didn't wait for the link to load, but I gather it's a folded radial design with too small a mouth, like Tom Danley's LABhorn. If so, then without a corner or at least a wall/floor junction to load it, then significant EQ will probably be required to shape its FR. Also, the long pathlength will probably require digital TD to get it ~in step with the mains.-- I started that project yesterday. It's something I can do with what I have in tools and material costs. I wanted the experience of doing this construction. Do you have an opinion on SonoTube sub woofer constructions?--Still, with the advent of small, high linear excursion drivers, reasonably compact upper LF/midbass horns can be realized, so assuming you're more interested in a 'fast' upper LF/mid-bass system to fill in below a FR system rather than a true sub system, then I imagine the Tuba will get the job done.--Yes, I'm thinking that is ideal. Low level and almost nearfield listening is the way this setup looks. Not looking for seat-shakers.The driver used for the Tuba has the highest excursion I'm aware of:16mm. It's the MCM #55-2421 8" : Claimed Fs of 25hz, Qts .18, Vas 39 ltr, SPL 87db, 120 w power rating and 16mm Xmax. Link below... but the unit is out of stock.--'Thump test'? Do you mean 'click' test? If so, it's just a little 1.5V battery powered ckt. using a DC rated SP-DT toggle switch to make/break the driver. With a typical minimally lined or stuffed vented cab it can still be somewhat underdamped (peaking at Fb, or worse, higher up if severely underdamped) so when the driver is switched it will tend to 'boom' (AKA 'ring') to some extent. Damping the vent till all you hear is just an amplified 'click' means it's critically damped, i.e. make it somewhat aperiodic, so any more just rolls it off more (overdamped). Note that a resistor equal

to whatever the amp's output resistance is required between the switch and speaker for best results. I don't know who originated it, I first saw it in a mid '60s DIY speaker building book written by a couple of Altec employees.-- That must be it. I couldn't imagine rapping my knuckles near the driver to get any sort of result. The only battery test I've used is for polarity.Thanks for answering all my (maybe inane) questions. I mentioned toBill that what I have to work with is the equivalent of a quote fromthe Time Portal episode of orginal Star Trek which said "I'm working with stone knives and bearskins." We've spoken of comb filtering which is (from my recently purchased "Speakerbuilding 201" book) are dips and peaks very close together which look like the tines of a comb. But what does this represent as audio reproduction? What do my deaf ears hear? Lastly, it may be time to learn some measuring techniques. I know there's a measuring forum on here at ART, but what would you say is a good minimal measuring setup? Ion-- GM MCM 55- 2421

Subject: Re: I must ask about stuffing....
Posted by Ion on Wed, 13 Apr 2005 18:59:21 GMT
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Quoted:I've had this discussion any number of times, although usually in the context of baffle step correction filters.IMO Reflections off of the back of the cabinet through the cone are in the 1-2kHz range. The reflections put a bump in the frequency response of the speaker in this range. People like the effect.-- Must be so. As I described to bernie it gives the effect of listening to the speaker as an instrument-- if that makes any sense.-- It gives sparkle to the sound of the speaker. Removing the reflections give a sound more true to the recording. It lacks the extra sparkle. It lacks "life". The same happens with. By cutting the treble to match the bass, you remove the exaggerated mids and the sound then lacks "life".--Our original discussion was about 'muddiness' at lower musicalinstrument ranges: string bass plucking on jazz solos in poarticular.But I also use organ recitals as a test of performance. I'd like to have 1.) sharp and noticeable string decay on plucked upright bass and (perhaps) boomers from the organ recitals. I haven't gotten a happy medium for that.--Don't get me wrong. If you like the extra "life" in the sound of your speakers, by all means go for it. Just understand where it is coming from.Bob Thanks Bob. I appreciate these dialogs, but many of these threads get buried over time. Sorry if my response was slow. Maybe Wayne canbe persuaded to upgrade the forums. I noticed that some Linux discussions have a personal profile that contains 'my discussions' so all thread answers are grouped together under the thread started and can be indexed that way at login.

Subject: Now That They Have A Few Hours on Them
Posted by FredT on Fri, 15 Apr 2005 01:11:14 GMT
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I believe we've beat this topic to death and apologize for adding even one more post, but I promised some comments after the speakers had settled in a bit, and they now have about 20

hours on them.Two valid concerns were expressed about using the 8" driver in a 2.5 ft bass reflex enclosure: 1) These drivers are so new that no one has reliable T/S parameters, spl vs frequency measurements, or personal experience with them, and 2) If the published T/S parameters are correct then they are not a good candidate for a bass reflex enclosure. I will try to address both of these concerns.First, they do come with a published spl vs freq graph, and it's important to know something about this graph, which I assume is correct. In simple terms, there's a subatantial rise in spl up to 1khz, after which the response is fairly flat except for the kinds of squiggles you see on the Fostex graphs. A few sample points taken directly from the published graph are: 40hz:82dB, 100hz:88dB, 200hz:91dB, 1.2khz to 14khz:100dB average. So the published 95.4dB/W(m) is an average, and it doesn't describe these drivers' sensitivity anywhere on the graph except at 800hz.I first listened to them connected direct to the amp with no bsc, and to my ears they sounded bright and fatiguing. Then I tried several bac values and finally settled on a 1.5mF 15 ga inductor with a parallel 6 ohm resistor (mostly because those values sounded best of all the parts I already had in the bin). With the bsc, to my ears the 3dB peak at 70hz and the 2dB null at about 140hz are inconsequential. Given the fact that this alignment has no output below 60hz, the small peak at 70hz actually adds a nice warmth to the sound. Of course the bsc reduces the sensitivity above 1khz, but since the reduction is from 100dB and above, they still are sensitive enough to play loudly with my 3.5 watt Paramours and to be driven to sounding a bit congested with my 300B.I'm not sure how to describe the overall sound except that it resembles the Fostex FE-166EE's in the Voigt pipes I built, but with more midbass punch and a bit more brightness in the 4-8khz range. The soundstage and imaging are definite strengths of these speakers and are comparable to other single driver speakers I have heard. I will need to hear them side by side with some other single driver speakers to comment in more detail. These speakers are fun to listen to, and I plan to keep them for now and alternate with other types of speakers in the smaller listening room. They are the best match of all my speakers for my 3.5W 2A3 Paramours. I'll bring them to the June Lone Star Bottlehead meeting in Dallas, and hopefully a few members of the Great Plains Audio Community can carpool down to join us and hear what I am struggling to describe accurately.

Subject: Re: Now That They Have A Few Hours on Them
Posted by roncla on Sat, 16 Apr 2005 23:32:00 GMT
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I live in the Baytown area and really would like to attend. Cant bring any gear to the meeting as i will be riding my cycle up there.ron

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Subject: 8" Audio Nirvana SPL vs Freq
Posted by FredT on Mon, 18 Apr 2005 01:39:01 GMT
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See the photo at the link below