
Subject: Newest acquisition 2 - 8" full range from Roland

Posted by [lon](#) on Sun, 12 Sep 2004 17:57:40 GMT

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I've been looking for some 8" to build a Voigt pipes for some time: started out leaning toward Goldwood, then Pioneer. There was a tip that these 8 inchers were being sold in pairs on Ebay for \$10. Eventually I got the base bid in and am waiting on shipment. But the speakers come with no information. The seller recommends a nearfield or studio monitor config. I'll have to see how they sound when they get here. Anyway, just for discussion, here's the link I have.

Roland piano 8" speakers sold on eBay

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [akhilesh](#) on Mon, 13 Sep 2004 11:34:07 GMT

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I saw these too. Do tell us how they sound!-akhilesh

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [Ralph](#) on Mon, 13 Sep 2004 19:53:47 GMT

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I hope those are good speakers for you. Let us know when they arrive. It looks like the person selling them had them in ported boxes. How tall do you plan to make your Voigt pipe, i.e. what frequency will they be tuned to?

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [lon](#) on Mon, 13 Sep 2004 20:32:17 GMT

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The taller the better for an 8" driver, I imagine. Below is the image of one that is 72" overall. I have another (harder to grab) that's 74" so both are pretty close. The problem with one of these is that the driver used has been discontinued. I also have considered the idea of mounting the driver on the slant side and using an angled piece at the port terminus... or a curved piece which is bent and snapped into place. Driver mounting should be at 40" for the 74" design, but if mounted on the slant side, other factors may apply. A recent [_audioXpress_](#) has a series on why the front panel speakers should be slanted, so I wanted to apply the concept to the Voigt and do both techniques at once. I don't know if this is a good idea but they seemed to go together.

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [roncla](#) on Tue, 14 Sep 2004 00:39:29 GMT

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The pointy type pipes went out a long time ago. Its much better to make the throat (top section) at least equal to the Sd of the driver. The mouth (bottom section) should be around 4 x Sd. This will hold down ripple in given sections of the FR curve. Without T/S parameters its more or less of a crapshoot, unless you have methods to establish them. ron

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [lon](#) on Tue, 14 Sep 2004 02:34:21 GMT

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Maybe it's a phase I have to go through. :-) From reading I seem to recall that this design is pretty forgiving and is good with inexpensive drivers. That was my reason for concentrating on the unusual design. If, indeed, you made the top less pointy, I'd say it'd be an MLTL. I am putting a pair of those (MLTL) together-- much smaller format design -- based on some numbers from GM at Full Range Driver Forum. These use the FE127e from Fostex. And I can make them out of 70 cent shelving from the Farm and Fleet. Before anything, I want to put my line array together as least a test build. Thanks for the help. I am not at the stage of doing from-scratch designs with CAD and spreadsheets. I'm learning my tools yet. It is pretty slow going.

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [Don](#) on Tue, 14 Sep 2004 03:14:59 GMT

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Are you saying that a truncated TQWP is better than one that tapers to a point? Why would having the point at the top add ripples to the response curve? Seems like the position of the driver in the pipe would keep that from mattering much. I would expect the end to end taper expansion, overall length and position of the driver to matter more than the area of the tip of the small end. Curious, Don

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [lon](#) on Tue, 14 Sep 2004 18:40:28 GMT

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While this discussion is going, if I made the bottomsquare to the base and just moved the taper up past the vent opening, how would that change things? There would be a curved piece snapped into place at the rear to the height of the vent opening. Something like a piece of rubber floor tile. (?) (No speak delivery yet today)

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [roncla](#) on Tue, 14 Sep 2004 21:09:27 GMT

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If the throat of a horn, which is little more than a flared TL, has zero area ($S_0=0$) then you will get excessive ripple in the FR curve no matter what the length. Bob's sim shows what happens. Look to the left of the page and click on Voight pipes and read what the results were. [ronhttp://www.geocities.com/rbrines1](http://www.geocities.com/rbrines1)

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [Don](#) on Tue, 14 Sep 2004 21:34:07 GMT

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The thing is the throat *isn't* zero area, as none really can be. The pipe is loaded in the middle. Regards, Don

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [roncla](#) on Tue, 14 Sep 2004 21:54:25 GMT

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The pipe is loaded through its length. The driver may be in the middle. Simple physics. ron

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [Don](#) on Wed, 15 Sep 2004 02:20:21 GMT

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My point is the throat isn't the pointed tip since the driver is in the middle of the pipe. It doesn't act the same as if the driver were at the tip. Moving away from the tip makes a low pass function, does it not? Don

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [roncla](#) on Wed, 15 Sep 2004 12:43:44 GMT

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Moving the driver down will help null a ripple at some point in the FR curve, but the pipe still acts like a pipe. If you study Martin Kings page and Bobs page you can see that the upper closed area acts like a throat. The smaller the throat the longer the pipe. I had many misconceptions about TLs and horns and such when I first started building single driver TLs, TQWTs and horns. But after building about 10 of varying designs and actually measuring the results I came to the realization that you can't beat the physics of quarter wave designs. I was designing (using a very advanced waveform/pressure program) a 300 Hz front horn for my current FL/BL horn design. Well the results were that it was a great deal shorter than I had believed it would be. It's then when I realized (with some study suggested by GM) that I wasn't violating the quarter wave principal due to the increased throat which makes a shorter horn. ron

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [roncla](#) on Wed, 15 Sep 2004 13:08:08 GMT

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As an added note! I ran some sims earlier on using my waveform program which is not as advanced as Martin's program and one whole heck of a lot more difficult to set up and run. Here's something interesting. Given the same V_b (volume of the pipe) the same driver in a set of 3 different designs this is what I saw. A positive taper (TQWT aka Voight pipe) will have to be longer and the harmonics will be closer together. A straight MLTL will be shorter and the harmonics will be further away from each other. A negative taper will be even shorter still with the harmonics being even further apart than the MLTL. These were all based on the same F_c or low tuning frequency of the cabs. Of them all, if I was into MLTLs at the present, I would go for the straight MLTL due to the easy construction and good median results. Stuffing will be necessary due to damping of the higher harmonics and BSC will be needed unless it's placed very close to a wall or has a very large baffle. ron

Subject: Re: Newest acquisition 2 - 8" full range from Roland

Posted by [Don](#) on Wed, 15 Sep 2004 19:51:12 GMT

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That is very interesting, very interesting indeed. Could you post your response graphs please? What program did you use for calculating waveform/pressure? I'd like to see its results too, if you would be so kind. Thanks for posting this most interesting information. Regards, Don

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [roncla](#) on Wed, 15 Sep 2004 20:42:17 GMT

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Martin Kins program is a great deal more complete and easier to work with. Mine is a "borrowed" modified program based on hydrodynamics of pressure vessels and is very labor intensive. I would suggest you give MKs program a try as it spits out graphs and info that i have to do numerous calculations. However on mine i can see the wave fronts changing as they travel so its more applicable to horns and such. ron

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [GM](#) on Wed, 15 Sep 2004 21:33:09 GMT

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1) The acoustic throat of a side loaded pipe isn't the end, but where the driver is. 2) Even terminated to a point, it's never zero since the molecules 'stack up', creating an acoustic boundary plate of 'x' dimensions, just as BB found out through experimentation. 3) BB simmed a design that got good reviews and concluded that it sucked from a technical POV due to the pointed termination, concluding he would never use one. His loss IMO since it can be used to good advantage in some apps since it loads the pipe/driver much more than a larger closed end. 4) Yes, you get excessive ripple, it's the reason for making the pointed termination, but this can be tamed as desired by proper driver/stuffing placement. Consider a woofer with a high Le. You sim a T/S max flat ML-TL and the LF gain follows the sliding slope below ~100Hz, so it's not so half space flat. With a pointed termination positive tapered pipe you get much more gain down low even after rolling some of it off through driver/stuffing placement, with the side benefit of a much better impulse response. GM

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [roncla](#) on Wed, 15 Sep 2004 21:59:08 GMT

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Must be my program as i see an increasing pressure at the top as the cone moves inward. Then i see an expanding pressure front from the pointed end which arrives at the port later in time than the driver point. Harmonic?ron

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [GM](#) on Wed, 15 Sep 2004 22:42:51 GMT
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>Moving the driver down will help null a ripple at some point in the FR curve, but the pipe still acts like a pipe. If you study Martin Kings page and Bobs page you can see that the upper closed area acts like a throat.====Only at Fp. Slide the driver down the horn and hear your gain above it disappear. GM

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [Don](#) on Thu, 16 Sep 2004 03:15:06 GMT
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I've seen MJK's spreadsheet. Thanks again, Don

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [GM](#) on Thu, 16 Sep 2004 22:41:25 GMT
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?? I don't follow.....GM

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [Mark Williams](#) on Tue, 28 Sep 2004 00:56:58 GMT
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Hi fellows, As the Irish say... "Is this a private fight, or can anyone get in?" My only comments are: #1) Computer simulations are a wonderful (and expensive) thing. But NOTHING can take the place of a real box with a driver in it and your ears. Which leads me to #2) Quit wasting time on computers and get behind a table saw and build something. Particle board and mdf are not nearly as expensive as software. Listen to what you've built for a while. If you eventually find you don't

like it; take the drivers out, burn the boxes and build a different design. You'll learn something and your cabinet making skills will improve! Respectfully, Mark

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [colinhester](#) on Fri, 15 Oct 2004 22:28:29 GMT

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Hey, Seems like we're running into each other alot lately. What did you decide to do with these 8" full range speakers?

Subject: Re: Newest acquisition 2 - 8" full range from Roland
Posted by [lon](#) on Sat, 16 Oct 2004 00:07:38 GMT

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I know what I want to do with them and that's make Voigt Pipes. I have a couple plans for these and once again would like to use something like the wooden plaques you mention to mount the driver in the manner of Terry Cain (but on a budget). And it looks like the only way I'll be able to do fancy cutting is get/borrow a Skil saw and make a sawboard. I have mounted my pair as open baffle and they are not really appropriate for horns. No one has posted any specs on them and I haven't got the setup for that. Best interim solution for the Rolands is as the seller suggests as an upgrade for older enclosures to make a pair of inexpensive nearfield monitors. So on my next dumpster dive, I may find something to modify or rebuild. :-)

Did you get any Rolands? There was talk about sharing info on these at the Full Range Driver Forum as well.
