Subject: Re: Boomtoobz
Posted by lon on Sat, 20 Mar 2004 08:58:19 GMT
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Re: BoomtoobzHi Lon,"My pipe diameter is standard 4" with the fittings.So you probably have an S0/Sd of about 1.6 which is a littrle low but not too bad. As a TL's area gets bigger the bass resposne gets better. I have found that this effect starts to reach a diminishing return at about S0/Sd = 3. The classic rules of thumb recommended S0/Sd = 1.25 which in my opinion is too small and chokes the bass response.I bet you are learning a lot and having a great time in the process.>> Yes, lack of tools meant that I had to find a design without much cutting thatcould be done with a hand saw. But I am still mathmematically challenged. If I were to recommend a classic TL per my understanding of the topic, I would recommend the length I previously posted and a pipe diameter of at least 5 inches. If you could find a way of mounting the driver 20% to 33% along the length you would get additional improvement. Maybe a "T" could be used.>> Ok. So a speak made this way could use the 6" diameter PVC at 40" of length usingthe information from the previous post as a guide(?) The issue that I had when making my initial length was: How does downfiring intocarpet affect what is heard? I could understand downfiring onto a wood floorbut carpet would have to absorb the energy of the sound would it not? So then Igot onto the idea of getting the pipe pointing forward like the driver. That was on the single length tube. Then I used the longer length, cut it down and bent the tubeup with a fitting at the open end identical to the elbow for the driver. 6" pipe at 40" is going to look like a narrow trashcan sitting in the living room...or maybe two of them. Sonotube is no decorator's dream either, but someday Iam going to fool with that depending on how the current work goes.So you probably have an S0/Sd of about 1.6 which is a littrle low but not too bad. As a TL's area gets bigger the bass resposne gets better. I have found that this effect starts to reach a diminishing return at about S0/Sd = 3. The classic ruls of thumb recommended S0/Sd = 1.25 which in my opion is too small and chokes the bass response.I bet you are learning a lot and having a great time in the process. If I were to recommend a classic TL per my understanding of the topic, I would recommend the length I preciously posted and a pipe diameter of at least 5 inches. If you could find a way of mounting the driver 20% to 33% along the length you would get additional improvement. Maybe a "T" could be used."I had wondered how SPL effects pushing the sound through such a long length... or which of the parameters addresses the issue ofpushing the sound through a long length."The sound does not really get pushed through the length. The pipe responds at discrete frequencies that are related to the length. At these frequencies the air in the pipe resonates, attenuates the driver's motion, and almost all of the sound comes form the pipes open end. This is similar to a BR but at more frequency values.I used a sonotube for my test TL and it worked great. I('ve) seen many TL designs using sonotube both tall straight ones and folded ones using nested tubes of different diameters.>> Where are examples of the nested tube approach? These would be new to me. If you can cut cardboard easily and glue joints that are air tight then sonotube would probably be as flexible to use as the sewer pipes. Nothing wrong with cheap and easy.>> The next tool I will get is a spin saw. RotoZip is the commercial name and there'sexamples of their use here in AudioRoundtable. I've made a homebrew spin saw usingan electric handrill, a drill guide (type found at Sears) and RotoZip(c) bit. I'vefound that using this rig makes little dust and what waste is created goes downmore than up into the air. There's some holes in the drill guide which I've usedas centers to cut circles. But I am limited to using this rig for the 3 circle diametersavailable. The spin saw comes with an adjustable circle guide. To conclude, you said up there that a 3/4 wavelength pipewould be a total of 10 ft. What could I expect by adding onanother short length to

go the full 10 ft. distance?Would anything be gained?"I have no idea how a 3/4 wave pipe would work and if there is an advantage or disadvantage to using one. I always try to keep things small. TL's tend to be big enclosures and I struggle building big boxes and getting up two flights of stairs form the basement to my listening room.>> I am asthmatic. I live on one level. So the things you are saying appliesto me as well. Small tools, low dust levels, and minimal lifting. At age 56I have no work and would like to learn something I can do at my own pace. "Since the 3 ft. 4" length for a TL is pretty close tomy shorter tube, I'm thinking that the driver shouldbe on the shorter length which would be closer to listener'ssitting height and the back tube would be open and maynot even need an elbow for "directionality" if I'mreading what you're saying correctly. In that configurationit'd prob'ly look more like a calliope."I think that this experiment would answer the question above. Try the two different length and see what you hear. Maybe one will be far superior to the other. The proof is in the listening.>> That will be my next step: reverse the construction keeping the same lengthsand test individually. Then after that, add some additional length out to 10 ftof length total.Hope that helps,>> It certainly does, though I don't know if I will ever be able to apply theoryover intuition and listening experience. Bill Schultz' followup article in_audioXpress_ on Alpha t-lines should provide some additional clarification.>> I have scouted the Tangbands and Fostex extensively and I use the FE87e inmy computer setup. I use the FE87e's in some doctored mini enclosers from anold Nakamichi shelf system. Being in Wisconsin, Madisound is within drivingdistance or fairly inexpensive shipping. lon