Subject: Re: Building YOUR single driver speaker:
Posted by Martin on Fri, 19 Mar 2004 14:26:21 GMT
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Hi akhilesh,"1. Many people on the web say lowthers are not great for a BR design, that they need horns. A Qts of 0.33 for the PM6C is not too bad though. Have you ever built a BR box for a lowther that has been satisfactory?"I have not built a classic BR enclosure using T/S alignment table values for determining the geometry. I have built an ML TL (Project #4 on my site) and used Lowther drivers with a correction circuit. This particular enclosure has had DX2, DX3, DX4, PM6C (currently playing), and PM2C (loaners) installed and they all work very well. The Lowthers are eight inch drivers with an fs of between 55 and 60 Hz and the ML TL is tuned to about 40 Hz so you do not get subwoofer quantity bass from them but the bass is balanced, tight, and in my opinion natural sounding on acoustic music. I don't know if these would make good rock speakers, however the PM6C definitely does have some thump when my kids play the stuff that passes for music on the radio today. No bloated or boomy bass is exhibited, very tight. I am sure that Wayne's big woofer Pi designs would produce much louder bass output."2. Does a well designed TL box, as described on on your website give better bass than a well designed BR box? I read somewhere else that a TL design does that, but i haven;t really gotten into the theory. I suspect a lot of us, starting out on a project, would like to know this, since the cost of the TL and the BR would be about the same. Further, how would this compare to a "simple" horn design...i'm thinking like a front firing horn."I have been asked the TL or ML TL versus BR question many times before. I really do not have a definitive answer. If you simulate a classic BR and overlay a plot of a ML TL the differences in the plots would be minor. A TL would be easy to spot due to the ripple associated with the standing waves. Which sounds better? I have never built side by side designs using the same driver so I cannot tell you with certainty that a TL is better then a BR. But I believe that a TL and ML TL will perform better primarily due to the internal damping that the fiber provides. You are designing the enclosure with this damping accounted for and it does help control the midrange standing waves in the box and the boomy bass that many associate with a BR enclosure. I have also found that the standing quarter waves in a TL do not excite the box as much as the constant pressure generated in a bass reflex at resonance. I don't use a lot of internal bracing in my boxes and do not feel vibrations in the cabinet walls. I cannot make the bold statement that a TL style design is always better then a BR design, or the other way aroundAs for "simple" front loaded horns, I have not finished examining horns yet and have not built a horn design. If you put a Lowther in a front loaded horn then I think you are also looking at a sub for the bottom end. My real interest in horns is a back loaded design where a sub is not required. My thinking is that a back loaded horn would still be a truely single driver design. It will probably be several more months before I have a real well formed opinion on this topic. Sorry, no help from me on horns at this time. "3. Finally, i have read on the net that lowthers have high variances in manufacturing. Have you found quality to be an issue in Lowthers, versus Fostexes?"I have never had a problem with quality of Fostex drivers and the measured T/S parameters are usually close to the manufacturer's specs. Extremely high qaulity control and very well made drivers.I cannot say the same for some of my Lowther driverss. The manufacturer's specs on the websites are pure fiction. When I first started with Lowther DX series, about two years ago, I did get some significant variability in the T/S parameters. Any driver that I felt was really off was replaced immediately with out any hassle. But yes, I did have some problems. The problems all centered around the spider and the stiffness of the suspension. Lowther has indicated that they have addressed the problem and based on the PM6C drivers I bought last

month I have no complaints. My new PM6C drivers are very closely matched and the T/S parameters fall right where I expected. I have PM2C, PM6A, and PM2A drivers on order and should take delivery in the next couple of weeks. If these are as consistent as my new PM6C drivers then I would have a lot more confidence in Lowther's quality control and am a very happy customer. My advice, if you buy Lowthers make sure you measure the T/S parameters. I have no hidden interest in selling Lowther drivers, I paid for these drivers and do not recieve any kick back or commission on future sales. I really believe in these drivers and feel the effort is worth the return. I guess I am very biased so please take that into account.I am not sure if Lowther's quality control is better or worse then other manufacturers. In the past 20 years, I have tested many different drivers and had problems with quality once or twice. I once had a pair of Focal 10 inch woofers with bad coils. I had a lot of trouble getting those replaced. I have bought many Radio Shack drivers for $5 and $10 just to use in experiments and have never had to return a single driver, quality control was exellent. I am sure that Wayne has a much better feel for manufacturer's quality control history with all of the speaker systems he produces.Hope that helps,Martin