Subject: What is the throat dimension of the Altec A7 horn?
Posted by wunhuanglo on Sat, 20 Mar 2004 19:15:10 GMT
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I'm wondering how to interpret the concept of throat dimension with respect to designs like the Altec A7 (828 cabinet).The baffle has an 8 X 13 inch opening in it. But on the front side of the baffle the horn opens up to approximately 8 X 17 inches. There's no transition.Is there an inherent problem with this? Would it be better if the top and bottom surfaces were angled so that the horn section began with an 8 X 13 inch section?Thanks
http://www.lansingheritage.org/images/altec/catalogs/1978-pro/page11.jpg

Subject: This geometry is in the Klipschorn as well.
Posted by Bill Fitzmaurice on Sun, 21 Mar 2004 03:11:02 GMT
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In both horns the design started with the mouth dimension, then the flare rate, finally the length, which left the throat size arrived at by default of the other parameters. In both designs it was found that performance was improved by a constriction plate at the throat, which had the benefit of creating a tuned chamber between the driver cone and throat that lowered the driver resonance. In both cases making the throat opening smaller could have accomplished the same task but would have altered the flare; in the case of Klipsch the KHorn had been in production for a number of years before the constrictor plate was adopted.

Subject: Thanks, Bill ! <nt>
Posted by wunhuanglo on Sun, 21 Mar 2004 11:59:24 GMT
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Subject: Is there a conflict??
Posted by HenryW on Sun, 21 Mar 2004 13:34:53 GMT
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With JBL technical paper here:http://www.jblpro.com/pub/technote/tn_v1n21.pdfThey specifically lead you to believe that the constriction plate is a problem instead of a tuning help. It makes some sense, and I have paused while considering driver and lens to think this through. My original design was thinking an Altec like constrictor, but I am now leaning toward less throat with no

restriction.Any ideas to help me clear my head?

Subject: Re: Is there a conflict??
Posted by Bill Fitzmaurice on Sun, 21 Mar 2004 14:13:25 GMT
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The link you gave referred specifically to HF compression drivers, and there the concept of a restrictor plate does not apply. In bass horns you can design a throat size without a plate and hope for the best, or design the horn, build it, and then use a constrictor plate as a fine tuning apparatus. I'm not positive about the Altec situation, but in the case of Klipsch that's exactly what happened. Paul Klipsch wasn't satisfied that the KHorn worked as well as it could, so he tossed in a restrictor plate to see if it made the horn work better. It did. It's a far easier process to play around with various restrictor plates than to rebuild the horn in a dozen different configurations. It's a very safe bet the Altec plate size was arrived at the same way.There are advantages to smaller throats, primarily in that they can give better HF loading, but they can also take the Fs(h)[driver/horn system resonance] too low. A constrictor plate is a simple but effective way to adjust the Fh(s)without major surgery.

Subject: Doh - Head is all clea now...
Posted by HenryW on Mon, 22 Mar 2004 18:24:46 GMT
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and waiting for the next warmup after an idea storm and the resultant fog...