Subject: Throat size for woofer
Posted by On Tilt on Sun, 30 Apr 2006 20:22:39 GMT
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I want to horn load a 15" inch woofer. Think Altec a-7 with flat sides to the horn flare. Can someone run the math by me for determining a proper throat size?Thanks...

Subject: Re: Throat size for woofer
Posted by Wayne Parham on Tue, 02 May 2006 22:41:15 GMT
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The best choices depend on a lot of stuff. Many things come into play - desired application, frequency range, power requirements, size requirements, etc. Have you tried modeling a horn with Hornresp?

Subject: Re: Throat size for woofer
Posted by On Tilt on Wed, 03 May 2006 01:41:49 GMT
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Horn resp are you kidding? I can barely run win isd. I am working on horn resp but it will be a while...

Subject: Re: Throat size for woofer
Posted by Wayne Parham on Wed, 03 May 2006 02:49:05 GMT
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It's really not too bad once you get the hang of it. It's definitely better than cutting a bunch of randomly sized and shaped horns in a purely empirical approach. You can make a few dozen models and tweak them in the time it takes to make one physical model, so you stand a better chance of making a good horn that way.

Subject: Re: Throat size for woofer
Posted by DMoore on Wed, 31 May 2006 00:00:47 GMT

The old-school rule-of-thumb was a 2:1 ratio (available cone to throat opening size) or about 70% maximum of the available cone area.Modern calculations like Don Keele's workk use a variety of T/S specs to derive the size for maximum EFFICIENCY for a particular driver IN A GIVEN HORN. The throat size in turn effects the length of the horn. Without specifics, in general, if you are indeed talking about an Altec A7-ish horn, try 8 or 9" wide for a 15" driver suitable for horn loading. It also depends on the horn itself, however, for very short (14" long) straight horns (A7) with an Fc of 80Hz, 9" is right in the ball park. Again, it DEPENDS!There are exeptions of course, most of the B&W drivers would be most efficient with smaller throat openings, etc. Download D.B Keele's T/S Horn design paper from his website and do the math manually. It's somewhat tedious, but it's fairly simple to do.DM