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Subject: Re: alternative speakers for Ten Pi

Posted by [Wayne Parham](#) on Wed, 20 Aug 2003 04:17:24 GMT

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I agree with Bill's comments - He pretty much hit it on the head. The Omega 15 sounds good in

combination isn't matched well, and is too boomy in the midbass. The Kilomax is an excellent driver, but it needs a much larger cabinet. And if it were to be used in a horn, the horn would have to be much larger. There are certainly many other motors that would work well, but these are the only ones I've tried. Several people have used other JBL's, such as the 130's in Shanko's system. And there are motors from other manufacturers that would work as well. However, there are also

shouldn't be used in a portable free-standing basshorn, or at least not one of small proportions. The Eminence Delta 15 is a definite no-go, as are the other entry-level Eminence products. Adam Bird tried a Kappa 15 if I remember correctly, and I think he would characterize them as a moderate success. If I were going to look at another driver, I'd definitely run the numbers first. What I like to see is a small peak at cutoff to help out the bottom-end response of a midbass driver. It's the exact opposite of reactance annulling - The horn becomes a resonator down low, and generates a peak that augments the lowest half-octave. A 2226 is not generating much below 60Hz without this horn on it, but with it, you get a whallop between 40Hz and 60Hz. But that can also get you into trouble. If your choice of driver in this horn forms a combination that peaks too much, you'll have a "one-note system." You want to find a combination that provides a response curve having about a 3-5dB peak at horn cutoff and that should be below the rolloff of the motor/chamber system. The midband response curve should have a gradual negative slope free of large peaks and nulls, usable piston output from maybe 40Hz to 400Hz. With this sort of response curve, you have a lot of options. You can use the subsystem through the piston frequency range only, as a midbass/midrange device. Or if the driver has rising response, it can be used well above this because the diagonal panels form reflectors. You'd be surprised how much vocal energy and even overtones are generated by this device. In a home, the room is usually small enough that a single horn can be considered to be in eighth space. In an open area, you should calculate based on half-space, and then two of them in near proximity would combine to act as quarter-space. Because of this, the horn - while often used in wide open spaces - will function as though it were in quarter-space. Anyway, the bottom line is that I'd suggest that you stick with the intended driver, or with another having very similar characteristics. If going with another speaker motor, I'd strongly encourage you to model the system before you build.

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