Subject: Alpha 15's as subs for SET's
Posted by Wayne Parham on Mon, 03 Nov 2003 11:43:47 GMT
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I wouldn't recommend Alpha 15's for prosound applications, but I would suggest them for low-power SET amps. SET owners have an unusual situation where almost nothing is really appropriate below 40Hz. Most subwoofers need electrical damping, and the high output impedance of a low-power tube amp isn't well suited for them. There's just no current source/sink ability, so the motor isn't strong even if the woofer is designed like a tank.One thing you'll notice about the Alpha 15 is that all sealed and vented alignments for cabinets smaller a house generate some peaking. It is within +/-3dB when the cabinet is larger than 10ft3, and if it is tuned very low or sealed. I know the rule of thumb about high Q speakers in sealed cabinets, and 0.7 to 1.0 are a good range for them.But I'd rather run this one ported, and tuned very low, to like 15Hz - and let me tell you why. Take a sealed 12ft3 box and one the same size, ported for tuning at 15Hz.

f3 of 40Hz, f10 of 30Hz, and output falls below that as you might expect. There is a 3dB peak between 50Hz and 100Hz, a direct result of the high Q of the driver.Now take the same size cabinet, and port tune it to 15Hz. You have almost the exact same curve down to 40Hz, so the ported cabinet hasn't increased the amount of peaking between 50Hz and 100Hz by an appreciable amount. But below 40Hz, you have a lot more energy because of the port. Both f3 and f10 are shifted lower in frequency, and you have usable output down nearly to 10Hz. At 15Hz, output is down 12dB. There is a sort of -10dB shelf in the 10Hz to 30Hz range which then rises to 40Hz f3.This is absolutely subterranean response for these low power tube guys. That's why I've suggested it as an inexpensive solution for SET owners. It is a viable subwoofer option for them, and one that is actually perfectly suited for low damping factor amps. With Q this high, the additional series resistance from the amplifier is only adding more of what is already largely there. And in a very large box tuned down deep, you can literally get bass response in the teens from a 2 watt SET amp. I don't know of many other solutions that will do this, and certainly none for such low cost.