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Subject: Re: 3 Pi dimensions and QSC 152 waveguide  
Posted by [Wayne Parham](#) on Sun, 07 Aug 2011 20:36:46 GMT  
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I wouldn't modify the plans unless you have good measurement equipment and time to setup the crossover. You have to take on-axis and polar measurements, to get good response and place the nulls outside the horn pattern. It is not a trivial matter.

If you want to design a speaker or to modify an existing design, here is a link that may prove helpful:

Crossover optimization for DI-matched two-way speakersAs for box dimensions, they are pretty important too for a full-range speaker this size. Standing waves develop, often creating ripples in response in the midbass or lower midrange, where damping material is ineffective. So cabinet size/shape and the positions of the midwoofer and port become important for mitigating response ripple.