Subject: Re: Contemplating a change
Posted by Wayne Parham on Fri, 09 Sep 2011 14:50:24 GMT
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It's hard to say. On the one hand, I always tell folks contemplating mods to think twice, because these designs are mature and have been thoroughly tested. On the other hand, you've had those boxes for years, so I would assume you like the midbass/midrange from them. That leads me to believe the internal standing waves aren't mucking up the lower midrange. They really can in a box this size.

There are two things to consider:

First is the position of the forward lobe. This is established by the crossover and the positions of the drivers on the baffle. So be sure the tweeter is the same distance from the woofer as shown in the plans. It can be centered, but do not make it any further away. Keep the tweeter close to the woofer, like an inch edge-to-edge, just enough room to get a brace in between them. And do not adjust the fore/aft distance. Mount both the woofer and the horn on the baffle. You can mount both on the surface, or route a groove to mount both flush. But do them both the same way so the relative fore/aft position relationship is maintained.

Second thing is the internal standing waves, as I mentioned above. They line up in the lower midrange, so it is vitally important to mitigate anything that might cause ripples in response. The insulation inside helps, of course, but it is also beneficial to put the driver and port in positions where the influence of standing wave modes are reduced. I also suggest using a sheet of insulation spanning the cross-section of the cabinet, as it helps reduce midrange energy better than the sheets lining the walls. It should be placed between woofer and port. Bass goes right through but midrange is attenuated.