Subject: 8 Pi with Alpha 10
Posted by Skip Pack on Mon, 19 Apr 2004 19:09:22 GMT
View Forum Message <> Reply to Message

Hi Wayne,I'm fascinated with your concept, but I was unclearon part of it. Are you hoping to use a single Alpha 10horn loaded for the mids and BR for the bass? In thiscase would the low frequency sound come primarily fromthe midhorn throat without augmentation because it'sbelow the horn cutoff, or would you expect as much or moreto come from the rectangular ports at the bottom. In somecircumstances, I suppose the horn throat could take onBR port characteristics, though I imagine this would beto the detriment of the mids.If you are using a single Alpha 10 with different loadings,how do you balance the lows with the horn-auagmented mids?I'm eager to learn about and build this one. Thanks,Skip

Subject: Re: 8 Pi with Alpha 10
Posted by Wayne Parham on Mon, 19 Apr 2004 20:01:32 GMT
View Forum Message <> Reply to Message

The cabinet is shaped so that it sits nicely in the corner, but does not require corner placement. The Alpha 10 will act as a direct radiator below horn cutoff.There were two implementations I had considered. One was to use a relatively small back chamber for the Alpha 10, so that the system was underdamped. An example is to use a 1ft3 back chamber port-tuned to 75Hz, which would give about 5dB peaking to increase bass output. This could be used to extend output of the midhorn down to 75Hz.Another solution was to use a reflex alignment that gave flat response, but this would then provide stepped response sort of like EBS. Output would be reduced below the cutoff frequency of the midhorn, forming a bass shelf that was flat down to reflex cutoff. Personally, I prefer this latter solution. I've decided on 5.5ft3 volume, port tuned to 35Hz. This will

developed works very well in this configuration. The tweeter circuit is the same 3rd order with compensation that is used elsewhere, and the midwoofer circuit uses a small series coil to shave just a bit of the top end. The midwoofer is also padded with a couple of resistors, and a large value bypass coil is also used to remove attenuation at the lowest frequencies.Overall, I think it makes a very pleasant system, both in sound quality and aesthetics. I've already made a sort of

piezo tweeter and connected a compression horn, placing it physically so that the mouth edges

shaped differently. Back chamber volume and port tuning were as specified. And man, it really sounds great.