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Subject: Re: big improvement

Posted by [Wayne Parham](#) on Thu, 28 Jun 2001 18:28:46 GMT

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I think that will look very nice. You can do it as long as you retain the physical distance relationships between woofer and tweeter. The front-to-back spacing sets the forward axis of in-phase summing, so you want the tweeter to still be at the same position as if it were flush mounted on the baffle. Don't set it back, in other words. And the vertical spacing between woofer and tweeter sets the width of the arc between off-axis anti-phase nulls in the vertical plane, basically setting the height of the vertical radiating angle in the crossover overlap band. So the tweeter should be the same distance above the woofer too. Also, don't raise the woofer above about 18" or you'll start to see a notch from floor bounce. When it's less than a couple feet up, the reflection from the floor sums constructively. The reflection acts much like another woofer, so the further up it is, the further away the virtual second woofer is. The distance between the sound source and the reflected virtual source creates off-axis nulls in much the same way that two real sound sources do. In this case, the ground itself is the forward axis, so there is only one vertical off-axis null, above the speaker at an angle determined by the height of the woofer and the frequency emitted by it. The bottom line here is you want to retain the physical distance relationships between woofer and tweeter and you don't really want your woofer to be up off the ground more than a couple feet. Not in a two-way speaker like this. So follow those simple rules, and you can mount the tweeter externally.

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