Subject: Re: Small horns
Posted by Wayne Parham on Tue, 23 Jun 2020 16:25:31 GMT
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I did make a five Pi model for a while that was pretty small. And I even made a cornerhorn with an 8" woofer, which was even smaller than the five Pi model.

There's no harm in making a constant directivity corenerhorn that is small. The expansion from the apex of the corner is really what's doing all the work anyway. But there are various things to consider.

There are two main things I've wrestled with when making small cornerhorns:

1. Bass response is lacking. I don't like low-efficiency speakers, so I don't consider that option and without it, a small speaker must necessarily lack bass. That's not a cornerhorn issue per se, but it is a potential problem nonetheless.

2. Midrange loading is difficult in a small box too. I've experimented with various ways to generate and radiate midrange, and the trade-offs usually involve the acoustic distance to the walls. One can try to get the midrange radiator close to the corner apex, but that's usually only possible at the lower end of the band. One can accept the walls becoming a reflector at the upper end, but that tends to create ripples in response. Or one can provide a horn/waveguide that directs sound at the upper end, so that the walls are only confining the radiation down low where they are acoustically close. But this tends to make the overall package larger, so even if the bass bin is small, the midhorn is fairly large.