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Subject: Re: Build Thread: 2Pi Towers, 6Pi Corner horns (and possibly a sub and center)

Posted by [joshua43214](#) on Mon, 16 Jul 2018 00:06:04 GMT

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I spent some time trying to figure where to put the crossovers. I know it is common to put them in a box, and set them on the floor next to the speakers. I am not the neatest person in the world, and this sort of thing just creates more mess in my world. I did want ready access to them, so putting them inside the bass bin seemed a bad option. After experimenting in CAD for a while, I settled on putting them in boxes, and mounting the boxes on the back of the midhorn. The pros of this are the crossovers are easily accessible, the box can be used to brace the back panel eliminating the need for a rubber ball behind the driver, and the crossovers are near the drivers making for a clean set up. The cons are that if I need to unplug the midhorn for testing, I will have to remove the box, and the fasteners are pretty expensive.

Because the box bolts to the back of the midhorn, the box is the same size as the back. I focused heavily on ensuring the front of the box and flare where as square as I could make them, this came at the expense of squareness at the rear cover. Both of them are very slightly out of square.

I began by ripping the backs for the midhorn and crossover box to fit their individual horns. I then taped the back cover and crossover back together, and cross cut them to fit the midhorn. I used layers of tape on the miter gauge to adjust the angle as I cut them. This is much simpler than adjusting the miter gauge, and just as accurate in this case.

I then marked out and drilled the 4 holes for mounting the box through both parts. The holes in the horn back gets drilled over sized later to take the 1/4" threaded inserts. After separating the parts, I drill the holes for the binding posts.

I have a rolling cart that I use for my drum sander that turned out to be just the right height to put under my drill press for drilling the mounting holes for the back cover. This was easier than attaching an oversized table to the drill press. I also have a bench top drill press that would have worked nicely by turning the head around.

I drilled first just one hole that is a tightish fit on the 10-32 screws I used.

I removed the back, swapped in the correct drill for the insert, and drilled again. I installed the insert, and screwed the back on with one screw. This screw will keep the back correctly positioned as I drill the remaining holes.

I went one hole at a time, first drilling for the screw, then the insert. A bit of a time consuming operation, but it ensures all the holes are well placed.

The crossover box is straightforward with sides 2.5' (64mm) tall. I cut the sides to fit the back cover. The cover was not so far out of square that it affected the corner joints of the box sides.

I was sure I had taken pics of them, but I seem to have misplaced them. So instead I offer a pic of the parts when I was painting the edges that are hidden. As a bonus they include a sneak preview of the tweeter boxes.

This concludes the construction of the midhorns.

Up Next: The Tweeter boxes.

### File Attachments

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- 1) [Backs\\_Crosscutting.jpg](#), downloaded 1087 times
  - 2) [Box\\_Holes.jpg](#), downloaded 1070 times
  - 3) [Back\\_Hole\\_1.jpg](#), downloaded 1088 times
  - 4) [Back\\_Hole\\_2.jpg](#), downloaded 1060 times
  - 5) [Back\\_Sneak.jpg](#), downloaded 1077 times
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