
Subject: 2Pi Tower Build

Posted by [birkbott](#) on Mon, 09 Aug 2021 13:39:57 GMT

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Hi all, I just ordered my Two Pi Tower kits and while I wait patiently for the backorder I have some questions:

Regarding lumber I know that 5/8" is called for but is there any audible benefit to going with 3/4"? I've only worked with 3/4" MDF before for bookshelf speakers but I'm worried it might make floorstanders needlessly heavy.

Is rounding the inside of the cutout for the woofer recommended? I'm planning to surface mount unless there's any benefit to flush mount.

For the build what do I need to buy that doesn't come with the kit? Speaker terminals I'm assuming? Are there recommended mounting screws for the drivers? Any other internal cabling or anything else? What about feet? Or should they sit on the floor?

For upgrades I'm pretty handy with a soldering iron are there good crossover upgrades? And is there an upgrade swap for the woofer? Any other tweaks that people have tried?

Thanks all in advance

Subject: Re: 2Pi Tower Build

Posted by [Wayne Parham](#) on Mon, 09 Aug 2021 16:11:09 GMT

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I'm sure others will chime in but I'll throw in my 2¢:

MDF is heavy, but I have two Pi towers made of MDF and they aren't too bad. Either thickness is fine - no advantage or disadvantage either way - because the rigidity is created by the braces, not the panel thickness. Do be sure your port size is appropriate for the panel thickness though. Port diameter depends on panel thickness, as is shown in the notes on the plans.

Also be sure you install the insulation as described in the plans. It is very important. You want the insulation spanning the cross-section as well as on the cabinet sides.

The crossover components that come with the kit are very good. You get Solen polypropylene caps and Jantzen air-core coils. We supply the internal wiring too. I don't think any upgrades are necessary.

A terminal plate comes with the kits. It mounts using a 2-1/8" x 2-7/8" hole. On most loudspeaker models, we put it 3" up from the bottom. But on the towers, we put it higher on the cabinet, just below the midwoofer. They're good posts, but you can get Cardas binding posts instead, if you want.

I like to use black oxide #8 pan head wood screws for the one Pi and two Pi models. But on larger models, I like using button head 10-32 screws and T-Nuts or threaded inserts. You could do that, if you want.

Lastly, there's no difference in performance between surface-mounted drivers and flush-mounted drivers. It's purely aesthetics.

Subject: Re: 2Pi Tower Build
Posted by [birkbott](#) on Mon, 09 Aug 2021 21:07:09 GMT
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This is very helpful, thank you.

Just to clarify, the insulation hangs on each brace and goes down one side? Or both sides? And nothing on the rear wall right? I saw a picture in another thread which looked like just one side + horizontal on the braces.

And do I need to bother with rounding the inside of the woofer cutout or no?

Thanks again for the info

Subject: Re: 2Pi Tower Build
Posted by [Wayne Parham](#) on Mon, 09 Aug 2021 23:36:11 GMT
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No need to round the edges of the cutouts. As for the insulation, the section on the braces is horizontal, just like you saw. That's really important. It completely covers the brace, spans side to side and fore to aft. When the insulation is installed on the brace, it looks like it divides and separates the chambers from one another. And in a sense, it does - midrange frequencies cannot pass through it. Bass will pass right through like it isn't even there though. So it forms a very good midrange "trap" and damps the standing waves that would otherwise be present.

Subject: Re: 2Pi Tower Build
Posted by [birkbott](#) on Fri, 13 Aug 2021 02:11:07 GMT
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Thanks Wayne, looks like I'm going with 3/4" MDF since that's what's available and reasonably priced in my area so I will adjust the port size accordingly.

There's no specific location for the terminal plate on the plans, I'm assuming it can go a couple

times inches below the 2nd braces below the woofer?

Also, where do people usually mount the crossover? And is there a preferred method to mount it?

Subject: Re: 2Pi Tower Build

Posted by [Wayne Parham](#) on Fri, 13 Aug 2021 13:12:12 GMT

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The terminal plate can be placed anywhere convenient. As I said, we always put it just below the woofer. As for the crossover, that too is placed where convenient. We usually place board-mounted crossovers on the floor of the cabinet and wire-tie inline crossovers to one of the braces.

Subject: Re: 2Pi Tower Build

Posted by [birkbott](#) on Thu, 21 Oct 2021 02:06:10 GMT

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Got delivery of my 2 Pi tower parts yesterday and am looking forward to starting my build. I have the initial cuts done and will work on the baffle holes next.

My question is re: front baffles. I would like to flush mount both drivers (I measured the depth of each as 5mm please correct me if that is incorrect). I do have a plunge router but I have also heard that glueing 5mm plywood to the front with cutouts the size of the external radius works just as well as routing the correct depth into the MDF. I like the plywood idea because it leaves me more material for the mounting screws to bite into but I'm worried about resonances and uneven gluing.

Has anyone had experience with this method?

I'm using 3/4" MDF and would plan to use 5mm ply from the hardware store (5mm underlayment) if I go that route.

Subject: Re: 2Pi Tower Build

Posted by [Rusty](#) on Thu, 21 Oct 2021 15:00:37 GMT

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I used 1/4" solid birch wood that I glued together to cover the face of the cabinet over the mdf. Wayne says and it makes sense to not use ply that may have voids within it that may buzz with loose particles in the voids. I spread out wood glue with a card and clamped it down with all my clamps and some heavy items for a few days. It's held up very well. I built the theater 4 Pi's, (discontinued) many years back. Great speakers I've never tired of.

Subject: Re: 2Pi Tower Build
Posted by [Wayne Parham](#) on Thu, 21 Oct 2021 15:31:24 GMT
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Good suggestion, Rusty. No way to damage your speakers in a way that cuts through the "veneer." Nice!

As for the flush-mount routing groove, some people make the baffles double-thick when building speakers routed for flush mounting. But this makes them very heavy. I personally like making the baffle thicker only around the area of the driver, making no other changes. The way we do this is to cut circular panels and glue them to the inside of the baffle right behind the driver. Do this before routing and cutting the mounting holes. This makes the area around the drivers thicker, just enough for the mounting screws.

As an example, your midwoofers are 10" drivers, so cut a 12" diameter round panel from 3/4" material. Glue this where the midwoofer will mount, and then cut the routing groove and through-hole. That will leave you with a ring that's an inch wide or a little more around the through hole. It's thick in that area so mounting screws will have plenty of material to bite into.

Subject: Re: 2Pi Tower Build
Posted by [grindstone](#) on Thu, 21 Oct 2021 15:45:58 GMT
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If you use an inside ring, you can capture/sandwich the T-nuts them so they can't push-out, FWIW.

Subject: Re: 2Pi Tower Build
Posted by [birkbott](#) on Thu, 21 Oct 2021 16:58:55 GMT
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This is all great advice, thanks!

Subject: Re: 2Pi Tower Build
Posted by [birkbott](#) on Fri, 22 Oct 2021 14:13:39 GMT
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One more question, is Douglas fir ok to use for the internal bracing or should I use hardwood as in the plans? I also have extra MDF on hand.

Subject: Re: 2Pi Tower Build

Posted by [Wayne Parham](#) on Fri, 22 Oct 2021 14:46:06 GMT

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Any of those are fine for bracing. I'd use the MDF.

Subject: Re: 2Pi Tower Build

Posted by [birkbott](#) on Sat, 23 Oct 2021 17:02:30 GMT

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Thanks, another question, where's the best place to get unfaced R13 insulation? I can only find it faced in my area. Is it easy to remove the facing? Would it be ok to leave the facing on for the top/side/front parts of I remove it for the horizontal sections?

Subject: Re: 2Pi Tower Build

Posted by [Wayne Parham](#) on Sat, 23 Oct 2021 18:22:50 GMT

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It's very easy to remove. Just peel it right off. Remove the backing from all sheets.

Subject: Re: 2Pi Tower Build

Posted by [birkbott](#) on Sat, 30 Oct 2021 18:41:54 GMT

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Before I put the backs on, how does this insulation look? I did top, one side, front wall up to the 2nd brace, and spanning the braces. Nothing goes on the bottom right?

File Attachments

1) [5A6D032B-6BC9-467D-9A2D-579F8AE7E3A9.jpeg](#), downloaded 492 times

Subject: Re: 2Pi Tower Build

Posted by [Wayne Parham](#) on Sun, 31 Oct 2021 13:58:58 GMT

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That's perfect.

Subject: Re: 2Pi Tower Build
Posted by [birkbott](#) on Sun, 07 Nov 2021 15:34:36 GMT
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Finished my towers today, in white duratex.

I did apply the logos after this photo, they sound great!

File Attachments

1) [027DE03C-FF8A-4793-80F4-DA814B7C1F01.jpeg](#), downloaded 497 times

Subject: Re: 2Pi Tower Build
Posted by [Wayne Parham](#) on Sun, 07 Nov 2021 21:18:56 GMT
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That looks fantastic! Really good job!

It reminds me of my very first pair of one Pi speakers 'cause I painted 'em white just like that.
That's for the chance to reminisce!
