
Subject: SCREWS?

Posted by [Frihed89](#) on Sun, 24 Jul 2011 06:04:45 GMT

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I have sourced the wood for the 4Pis. I do not own any clamps, except for 2 small ones. Is it possible to use screws and epoxy to make them air tight. Are there any other options for people without these long clamps? They are terribly costly in Denmark and this is not an inexpensive project to begin with at Danish prices, including the wood!

Subject: Re: SCREWS?

Posted by [Wayne Parham](#) on Sun, 24 Jul 2011 17:13:35 GMT

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I've made cabinets that were perfectly airtight with makeshift clamps like weights and braces. But I'm pretty sure any self-respecting cabinetmaker would frown upon that.

Screws are fine as long as they don't split the wood. Drilling the hole first will help a lot. Put a small dab of glue down the hole and only tighten snug - all you need is a little clamping force. That will hold the panels in place, which is all you need them to do.

Subject: Re: SCREWS?

Posted by [Frihed89](#) on Sun, 24 Jul 2011 17:53:01 GMT

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Type of glue? Is West Marine Epoxy OK? On second thought, it sets up fast. No time room for error.

Subject: Re: SCREWS?

Posted by [Wayne Parham](#) on Sun, 24 Jul 2011 19:16:32 GMT

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I prefer Titebond or Elmer's Wood glue for MDF. But for my larger hornsub cabinets that use Baltic Birch, I prefer PL adhesive. I have also used it in smaller cabinets and it works just fine. It just isn't as easy to clean up. So for the "furniture" aspect of the speakers that have real wood veneer finishes, I think probably the wood glues are probably better. Once that PL gets on the wood, it's really hard to get it off, so the finish can be blotchy.

Now please understand I usually have a cabinetmaker do the woodworking, so I'll defer to some of them here to give other opinions. There are some really good cabinetmakers here on the forum. What I'm telling you is what I've come across on the cabinets I've helped build. I tend to be

hands-on from time to time with my cabinetmaker buddies, and have learned some from them.

Here's a thread about glue, where some seasoned woodworkers gave their 2¢:
Glue

Subject: Re: SCREWS?

Posted by [Bill Epstein](#) on Sun, 24 Jul 2011 19:56:53 GMT

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Don't know how you say polyvinyl acetate in Danish but that's what Titebond and Elmers are here, if you don't have those brands. PVA is the most common woodworkers glue by far.

Epoxy is thick and won't allow as tight a fit. After glue-up run a bead of glue or caulk on the interior corners if you're concerned about leakage, i.e., cabinet "Q".

The key issues with drilling holes and using screws are 2:

1. Filling the holes and then leveling the filler so it doesn't show through the finish as a raised spot. You won't believe how what you think is level shows through.

2. The torque of the turning drill bit wants to run the panels apart. Use at least one good clamp to hold the panels tightly as you drill. Use only coarse thread wood glues, not fine thread metal stud drywall screws.

I'm excited to hear that you're ready to start and look forward to the results.

Subject: Re: SCREWS?

Posted by [dutchswan0311](#) on Sun, 24 Jul 2011 21:15:35 GMT

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I used #6 1 1/2" wood screws on my first 4pi build. The #6 is a little narrower, which is less likely to split your plywood. The cabinet is perfect and airtight, and I used PL Premium on the joints before screwing them in.

My second 4pi build will be with Titebond and clamps. I think the not using screws plan is more of an aesthetic thing than a structural thing, but I want to get good at glueing things. They are not kidding that Titebond is easier to sand and clean (especially off your skin). If you do clamp them, I found 8 clamps to be insufficient, and bought 4 more. Cost was about \$15 USD each.

File Attachments

1) [IMAG0567.jpg](#), downloaded 279 times

Subject: Re: SCREWS?

Posted by [Frihed89](#) on Mon, 25 Jul 2011 09:23:11 GMT

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First, I want to thank you all for your support and advice. If I seem slow to act, I am. However, that does not mean that your advice has been wasted. It is all a part of a series of larger decisions. In the end, I will have 2 SET (AN 300B and Fi-2A3) systems, a custom-builder-made Class A PP-triode system, and 3 sets of speakers (including the 4Pis)...and who knows what else lies ahead? Audio Note will soon come out with a new version of their EL84 SE power amp (P-1SE) with dual c-core OPTs!

This idea started out something like 4 years ago, as I began to go to lower and lower powered amps. However, in the meantime, I had bought some somewhat insensitive, but very easy to drive, speakers that sound divine to my ears, and the need for high sensitivity disappeared...almost.

My step-son is going to do the cabinet work. He and I have no clamps. I am in the process of sourcing all the drivers from the UK - the higher grade ones - but I am ordering them slowly to soften the blow(s). I am in discussions with local speaker "experts" about the cross-overs. The advice I'm getting is that they look easy to make from scratch. But I may still source them from Wayne. And then there is the issue of what speaker wire to use. I posted on that.

The amps don't arrive until September, probably. I already have some speakers that will work with the Pis, albeit with more distortion than I like, so the project can proceed slowly, on my own slow pace.

Thanks again.
