

Notes on assembling speaker cabinets

Do this for one cabinet at a time on a clean flat surface. You'll need wood glue, paper towels and clamps or heavy objects. A paint brush or butterknife helps to spread the glue. Working with a friend is a good idea. This procedure is only really good for small cabinets like yours; for larger cabinets, the glue on some joints may set before you finish assembling everything. For large bookshelf and tower speakers, clamps and a more carefully thought-out assembly process start to become necessary.

Make sure that this entire procedure makes complete sense to you before you start. Take your time and stay calm, but also be careful and alert. You want everything to be lined up and secured as precisely as possible.

Gluing procedure

1. Make sure that you have the MDF pieces you need. Each speaker has a 9x12" front (with driver holes) and back (with a small hole for the terminal cup), two 6x12" sides, a 6x8" top and bottom, and a 6x8" brace with a 4" circular hole in it. You're building 2 speakers - the two front panels should be mirror imaged of one another. If you took the wrong pieces, stop here and exchange your pieces in class next Saturday.
2. Lay down the back panel of the speaker with the grooves facing up. Spread a thin consistent layer of glue in all of the grooves. You're looking for enough glue to completely fill the narrow gaps that will exist between pieces; as you make progress you'll get a better idea of exactly how much to use. Ideally, small amounts of glue (not globs) will come out of the cracks when you clamp or weigh down the cabinet.
3. Fit the brace, top and bottom pieces into the horizontal grooves. The brace is the piece with the big hole in it, and it goes in the center groove.
4. Spread glue in the grooves of your two side panels and fit the sides on. You now have all pieces of the cabinet assembled except the front.
5. Spread glue on the exposed edges of the braces, top, bottom and sides. Fit the front panel on carefully. You may have to wiggle the other pieces around to make it fit. Once the front panel's grooves are lined up, push down on it and inward on the other pieces to align everything.
6. The glue is now starting to set. Examine the cabinet to make sure everything is lined up and square. Feel along the edges to make sure there isn't too much overhang.
7. Put on clamps to squeeze the cabinet together, or just load on as much weight you can find.
8. Wait 30 minutes, then take off the clamps/weights and repeat steps 2 through 7 for the other speaker. The glue dries overnight, but it should be strong enough that you can pick up and move the cabinet after 30 minutes.
9. You can scrape the excess glue off the cabinet edges with a knife (or paint scraper, if you have one).
10. Sand the edges with 150-200 grit sandpaper, to make the edges flush and smooth. If you have a power sander, this is a good time to use it. Be careful to not round over the edges (unless that's what you want).
11. Good work! It's understandable if you don't like the look of plain MDF; we will talk about the options for finishing your speakers (paint, laminate, etc.) next weekend.