Subject: flush mount or not?
Posted by roland on Wed, 06 Jul 2005 19:09:04 GMT
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Hi All,I'm getting ready to build my 4pi stage. X-over ready, the wood I need is there. No the Q: I see that the Omegapros are quite 'thick'. The cabinets will be made out of 19mm solid oak. If I flush-mount the omega 15s, I won't have a lot of wood left where the drivers are mounted. Would 5mm be enough? Optione that I have are either to re-enforce the baffle from inside, or just not flush-mount completely....Thanks for any feebackRoland

Subject: Re: flush mount or not?
Posted by GarMan on Wed, 06 Jul 2005 20:10:48 GMT
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For these large drivers, you need a pretty thick front baffle if you flush mount. I've used 1" MDF for "thin" drivers or double 3/4" for larger drivers on the baffle. Once you route out the recess for flush mount, you're still left with a good 3/4" of material to attach the driver.3/4" is plenty if you use T-nuts and bolts. More would be better if using wood screws. As for your 5mm, I'd see that as risky. Remember, you're looking to do more than just hold the driver in place. You want to screw the thing in tight so there's no air leakage and that can put a lot of pressure on the material behind the driver.Mind you, you don't have to re-enforce the entire baffle. Just the ring around the driver will do. Above photo is my driver re-enforcement, front baffle bracing combo.Gar.

Subject: thanks gar..
Posted by roland on Thu, 07 Jul 2005 04:06:13 GMT
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I get the picture. I'll recess as I see fit and then just re-inforce the baffle where needed as you suggested.Roland

Subject: Re: thanks gar..
Posted by GarMan on Thu, 07 Jul 2005 12:41:37 GMT
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Someone else may want to take a stab at your original question of whether it's necessary to flush-mount or not. My understanding is that flush mounting a driver will reduce diffraction of

soundwaves. Diffraction off the edge of drivers have more impact on shorter wavelengths than long (ie more impact on high freq).Since we'll talking about the woofer, I don't think it's absolutely necessary to flush mount it. It does go up to 1600Hz, but at that point, the soundwaves are narrowed to approx 90 degrees and should not be affected by the driver edge.With that said, you did mention you're building this out of solid oak, which means you're after a nice looking cabinet. Flush-mount drivers do give a speaker a more finished and professional look.Gar.

Subject: Re: another stab...
Posted by Matts on Thu, 07 Jul 2005 14:50:39 GMT
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I agree with you- flush mounting may have some theoretical benefit, but it's probably not a big deal (probably not noticeable) with a 15" speaker. It would look better, so it may be worth doing for that. I'd say do it if you have a router and can do it, otherwise I wouldn't worry about it. I also think the 5mm flange is way too thin to mount that big of a driver to- that's only 1/5"! Brace would take care of that, though.

Subject: Re: another stab...
Posted by roland on Thu, 07 Jul 2005 15:59:21 GMT
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Thanks for your input guys. Indeed, the plan is a nice looking cabinet:)Bracing is sorted, will make some re-inforcement to the 1/5" part though.Roland

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Subject: Re: reinforcement....
Posted by Matts on Thu, 07 Jul 2005 16:39:03 GMT
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a good thing about this type of reinforcement, assuming you just put another layer of wood on the inside around the hole, is t-bolts will hold it in place rather than fighting it. So it should be easy to do- a little glue to start out with and get the hole right, then the t-bolts to hold the speaker on. Will look very nice.What amps are you using these with?

Subject: Just thought of another option...
Posted by GarMan on Thu, 07 Jul 2005 17:05:20 GMT

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There's really two ways to flush mount.One is to recess the driver into the baffle, which we already discussed. In your case, you'll need re-enforcement behind the baffle.The other is to raise the baffle area around the driver up to meet flush with the driver! Cut the driver hole into the baffle and use the full 19 mm to mount the driver (T-nuts recommended). Then use contrasting wood (or other material) to cut a ring that sits flush against the driver edge, framing the driver. Round-over the outer edge of the ring/frame and you have a decorative finished look, and reduce diffraction (if it does in fact apply here).

Subject: Re: reinforcement....
Posted by roland on Thu, 07 Jul 2005 18:15:36 GMT
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I have a 6sl7 srpp -> 2a3 SE integrated (scratch build) running into Lynn Olsens ME2's. I will build a more appropriate amp for these speakers though... A smallish PP amp or parafeed SE. It will be interesting to to how annoying the 1.5-2mV hum I have in my 2a3 amp is:)Roland

Subject: Recess the HS290
Posted by roland on Thu, 07 Jul 2005 18:43:19 GMT
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Sorry about these q's, but how do you route the corners for the HS290 horn? I've seen some pics on this, but it stil seems tricky to get the corners just right...any hints appreciated.Roland

Subject: Re: Recess the HS290
Posted by GarMan on Thu, 07 Jul 2005 19:45:42 GMT
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Roland, are you asking how to recess mount the horn flare into the baffle. If so, one way to do it is to use templates. Here are the comments for each photo:25) Screw horn down on first Template board.27) With router base against horn, route out Template-1.28) Use Template-1 to create Template-2. Router base against Template-1.30 & 31) Use Template-2 to route out recess on front baffle. You will need to use a template guide on your router base. The size of the guide will depend on the size of the bit(s) you used for Template-1, Template-2 and final recess. Take your time to do the template-math to figure out the size of the template guide. Then do the math again several times to make sure you come to the same answer.How did I figure this out?

Simple. I asked.http://www.audioroundtable.com/Craftsmen/messages/311.htmlBTW, if you flush mount the horn by routing a recess into the baffle, you may run into the same problem of not having enough material to screw in the horns.Gar.
Flush mount horns: Pic 25 to 31

Subject: Re: reinforcement....
Posted by Matts on Fri, 08 Jul 2005 02:12:59 GMT
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I don't think that level of hum should be bad in those speakers. Let us know how they sound!

Subject: great stuff. Posting pics as soon as they are finished...
Posted by roland on Fri, 08 Jul 2005 04:30:39 GMT
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Roland
