Subject: Re: 3 Pi Modifications
Posted by Wayne Parham on Sun, 04 Apr 2010 13:41:25 GMT
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Don't use laminated core coils, because the decreased resistance isn't needed and you're increasing magnetic non-linearity in the trade. You have to really look at the circuit to know whether an iron core coil is needed. If DC resistance is high enough to modify the transfer function, to introduce a peak of say a decibel or more, then it makes sense to consider using a different coil with lower DCR. But if the added DC resistance only makes a difference of say a few tenths of a decibel, I think it's safe to ignore it. In that case, I'd suggest using an air-core coil where size and cost allow. The bottom line is, use air-core coils where you can for best sound quality.

As for the sealed cabinet, I suppose you could do that but I wouldn't. Bass-reflex cabinets distort less because they decrease excursion. Then again, unless you're cranking them, distortion will be really low anyway. As far as the crossover is concerned, this is a mod you can probably make without penalty. And if you go multisub, the tuning on the bottom end doesn't matter as much, as they all blend. So I expect it would probably be OK.

The thing is this: Unless you're setup to measure and compare, why go with untested mods? I mean, I've spent hundreds of hours designing and modifying these speakers, and once you've modified them, you throw all that out the window. I understand wanting to improve things, that's why I DIY. But blind modification (without measurements) sometimes ends up decreasing performance. Models are great, but they're a fist step, not an end-all. You can't compare a modeled speaker with a measured one. So my advice is, go with the stock build. Just my 2¢.

Here is a post (with a link inside to several more) that describe my design philisophies, and why I