Subject: Possible use of Lambda woofer in Pi enclosure.
Posted by Charlie G on Thu, 03 Jan 2002 00:23:22 GMT
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I've been pondering using a Lambda TD15M driver in a Pi enclosure (similar to the 4 Pi's, I guess). PiAlign gives me reasonable numbers, a bit bigger than the 2226, and a bit smaller than the Delta. Enclosure size comes out around 30x20x14. Though I haven't accounted for woofer & horn displacement yet, so it'll go up a bit.The TD15M is a good bit different than the other drivers though, Fs is very low at 30.5 Hz, and Vas is way high at 405 Liters. The Qts is 0.27, giving a Qd for PiAlign of 3.703703... Zmax is less than 40 ohms.So I could build a fine PiAlign box, but I'm not sure what would happen to the crossover. The TD15M is about 98.1db @ 1 watt, How would I choose a compensation network? My guess would be the 8db one. (this is for the PSD2002, btw, though I might upgrade to the JBL at a later date).As for the crossover for the woofer, the TD15M is about +/-2db up to 1.5Khz, then climbs slowly to 4Khz, where it is about +3db, then rolls off 4th order. Would this imply I could just just a series inductor like with the 2226, or not? With that, I don't know whether the driver's own inductance (Le) matters or not, but it may be of note that it is very low, 0.2mH, compared to the 2226's 1.75mH.I fully expect that I'd probably end up tweaking the crossover a bit later anyways, but any hints at a good starting point would be appreciated.Thanks muchCharlie

Subject: Re: Possible use of Lambda woofer in Pi enclosure.
Posted by Wayne Parham on Thu, 03 Jan 2002 01:08:32 GMT
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Speakers having asymmetrical slopes, electrically second or third order. First-order and pseudo-first-order filters work well in some cases but since your woofer generates output to 4kHz, I don't think it's going to be a good option. I'd probably use a higher order low-pass filter on the woofer instead.

Subject: Re: Possible use of Lambda woofer in Pi enclosure.
Posted by Charlie G on Thu, 03 Jan 2002 01:45:52 GMT
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Looking at the Pi crossover schematic, the capacitors for the tweeter crossover are rather immense by audio standards. It pretty much eliminates film & foil caps, and all metallized caps except for very cheap ones, like Solen. The only other caps made in this size are Auricaps, costing $50 each (22uf). Any thoughts on the required quality of these caps, and/or what you'd recommend?ThanksCharlie

Subject: Re: Possible use of Lambda woofer in Pi enclosure.
Posted by Adam on Thu, 03 Jan 2002 15:42:39 GMT
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Not sure what you mean... There are a lot of caps available in that size, it's pretty standard for crossovers. Not sure what you mean when you say cheap caps, like solen...Solen, crescendo, dayton, etc.... Lots of choices.If you don't want to spend the extra cash for these larger values, you can run a smaller value in parallel with an added electrolyte to get the same value. You'll get most of the sonic qualities of the poly cap without the extra price.Adam

Subject: Both Solen and Daytons sound great
Posted by Mike Bates on Tue, 08 Jan 2002 03:44:39 GMT
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in the 15- 25 mfd range. I like them better than some expensive paper in oils I tried. The Solens are tighter tolerance so probably worth the extra couple of bucks. You can bypass them with an expensive .33 or something if you want. It might sound better. Cheap resistors seem to muck up the sound most IME. The Mills 12 watters are really good if your using little amps. Around $3.00 a piece at Parts Express.Mike BatesCoolJazz

Subject: Re: Possible use of Lambda woofer in Pi enclosure.
Posted by Wayne Parham on Thu, 31 Jan 2002 02:52:37 GMT
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I suggest Dayton, Solen, Jantzen or Auricap polypropylene capacitors. Each of those work well, and you'll find them in various price points.