Subject: 3 Pi Theater with Beta 8 Midrange
Posted by FredT on Wed, 18 Jan 2006 21:12:46 GMT
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I couldn't resist getting a couple of Parts Express buyout Beta 8's at $36 ea, so I built 0.5 cu ft sealed enclosures to house them, placed a 6mH Erse 15ga laminate core inductor in series with the 12" Delta LF woofer, and moved the existing low pass crossover to the Beta 8 midrange with only a change in the value of the cap in the impedance compensation network from 40uF to 15. Theoretically the natural rolloff of the Beta 8 in the sealed box should do the low frequency attenuation of the midrange driver, with a -3 dB point around 120hz. Even though I built them with a separate tweeter box atop the main enclosure so I could add a midrange later, these once handsome speakers look strange to me with the midrange box stacked atop the woofer enclosure and the horn atop the midrange box. I may build a single box later to house both the midrange and tweeter. I have to listen for a while before I form an opinion, but even from the start adding the midrange has further improved one of the 3 Pi's existing strengths: When playing fast attack percussive sounds like a piano at high volumes the 3 Pi, even in its original form, would continue to sound clear far beyond the point where smaller, lower efficiency speakers begin to sound congested. With the separate midrange that strength is enhanced even more. The sound continues to be clear at very high volume levels (far beyond the levels I normally listen at). According to my Radio Shack sound meter placed at the listening position the resoponse is very smooth except for a 3-6 dB peak in the 100-160hz range. This may be room-related, or the midrange may need a large value series cap to provide additional attenuation in that frequency range, but I would hate to introduce a big electrolytic cap into the Beta 8's signal path. This is the woofer / midrange crossover region, and sliding the midrange back a bit may also have some effect, as would replacing the first order woofer low pass with a 2nd order and reversing the polarity. I'll explore all that later. For now I believe I'll just chill and enjoy it.
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