Subject: theory meets "reality" in the living room
Posted by Sam P. on Tue, 09 Jul 2002 12:34:34 GMT
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Was playing with the old sig gen, and decided to repeat a series of level checks where the effect of varying the size of the xover series resistance "bypass" cap was examined. With no bypass cap installed, shorting the series R only boosted output by 10dB, so any "gain" provided by the cap can't exceed that amount. I was interested in performance enhancements at 10kHz. and 15kHz.cap 10kHz. 15kHz.0.33 +1dB +3dB0.47 +2dB +4dB0.68 +3dB +6dB1.0 +4.5dB +8.5dBmeasured on axis, at 1 meter. Maybe this explains why I could hardly hear any difference with/without the 0.33uF cap in use! YMMV. Sam

Subject: Re: theory meets "reality" in the living room
Posted by Adam on Tue, 09 Jul 2002 13:42:17 GMT
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Sam... I share the same thoughts on the 0.33 uf cap... I couldn't tell the diff, either. I always thought a larger cap value would work better, but I never tried it. Between the psd2002 natural rolloff, and the biradial horn characteristics, do you think the 1 uf would be most appropriate?Adam

Subject: best to "run the series"
Posted by Sam P. on Tue, 09 Jul 2002 14:33:22 GMT
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and verify the effect "in your circuit, with your drivers". I was playing with some Altec 902's, with non-standard 35480 diaphrams. They roll off a little sooner than my favored 34647 diaphrams, but are a little flatter across the main operating range. Now comped with 1.0uF, the meter is more or less "flat" in room at 12 feet when flipping from 100 to 1000 to 10,000Hz. (-2db). At above 15kHz, the HF driver is on it's own response wise, since the only "boost" available is already in use by then...well, you know, the 10dB lost in the series R has been "reclaimed". Honestly, I think Wayne's PSD2002 comp works FINE with 0.33 or 0.47uF and 12dB of pad in my quasi-4 Pi Pro's. IIRC, the 0.47uF Dayton I installed across the 23.5ohm series R (a pair of 47ohm Mills) may even have been a little "too hot" at the upper end when measuring the system response. In retrospect, my Altec's using the 35480 diaphrams have been slightly "hf under-comped" all along, making the 4 Pi's PSD2002's sound "brighter by contrast". Well, they REALLY were playing louder up high (15kHz) than the Altecs after all:) You didn't hear that from me, shhhh. Sam

Subject: Re: theory meets "reality" in the living room
Posted by bmar on Tue, 09 Jul 2002 19:08:08 GMT
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Hi Sam,I use a 1.0uF cap for a bypass in my system. Bill