Subject: Corrective reactive components.
Posted by Poindexter on Sun, 24 Oct 2004 18:02:20 GMT
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What about resistive/reactive circuits that cause phase to be more linear? Dunno; I haven't tried it. There are some very sharp guys who do this all the time. Remember also that simple (no feedback) audio circuits and speakers/crossovers are mostly phase-minimum situations, so the phase and amplitude responses are interdependent; correct one and you correct the other. Two of these corrective circuits that are getting a lot of discussion right now are the Baffle Step Compensation Circuit, and Sigfried Linkwitz' 'perceptual dip', a low-Q ~3dB dip centered at 2-3KHz. These may be implemented at the speaker, passively at line level, or as part of a preamp/amp circuit. I would much like to scare up enough time to try these out.My personal experience so far, however, is that when we use these circuits, we're playing the correction of the circuit against the degradation of the sound due to the insertion of passive components in the signal path. All components have a 'sound'; that is, they degrade the signal to some small extent. As an engineering sort, it drives me crazy that resistors have a sound. Technically, it's insupportable; any nice quiet, low TC metal film should be sonically indistinguishable from a good piece of wire. My 6V6 amp was the first piece I built without any grid-stop resistors and it sounded fab and displayed no overt signs of oscillation, but just to perform the experiment, I put a

things out of there fast enough! These are nice resistors, my fave so far, and I never would have thought that the difference would be so great.So, so far my opinion is that the circuit should be as absolutely simple as possible, with highest possible quality components, especially (in order) capacitors, resistors, connectors, wire. Oddly, inductors (including transformers) don't seem to have as much of a sonic signature; as long as they are good quality, and are operated well down out of saturation.JMO, YMMV, et dissing cetera; just one geek's experience.Poinz