Subject: Re: Transient Perfect Crossover's
Posted by Wayne Parham on Sun, 12 Oct 2003 10:20:47 GMT
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You're right about the merits in improving the behavior of the system where phase is concerned. One really wants to make sure that phase offset doesn't become excessive and that interference and lobing are limited throughout the coverage angle. To me, the way to do this is with controlled directivity. That's really more the issue than phase, because it is impossible for phase relationships to be perfect at all locations in 3D space. The best thing we can hope for is good phase relations, i.e. constructive summing, in the target area which is our intended radiation pattern.My approach is to use horns with constant directivity and a pattern that is fairly wide but not very tall. This puts the energy where we want it - throughout the room but not wasted on the ceiling and the floor. It also helps to reduce energies at vertical off-axis angles where path length differences form nulls. The idea is to stack drivers vertically and pick crossover and driver positions that place the nulls outside the vertical coverage angle.