Subject: Differences between "normal" of "horn"-type active filter.
Posted by _Wim_ on Sat, 04 May 2002 09:16:38 GMT
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Hi I am in the middle of building an active speaker system (actually I have already one but I am not fully satisfied, it consists of a 15 inch Karlson cabitnet and a Cetec-Gauss/Jbl combo) I am planning on building a 4-PI cabinet and using the same motors, which are a JBL 2227H, a Cetec-Gauss HF4000 driver (alnico 2 inch driver comparable to JBL 2445 with a little reduced top end) coupled to a constant directivity 2380A JBL horn. For super tweeters I will be using JBL 2404 "baby cheecks" (I really like JBL motors, but the Gauus drivers I could get reallty cheap)Now i am designing my active filter. First I know I have to compensate for the high frequeny drop of the CD-horns. I did some measurements and tuned the high frequency response flat to 18Khz outdoors, but when I listened inside, the highs were really chattering. Futher investigation revealed that we were indeed flat in the direct field, but the reverbant field (is this to good temr in English ?) had to much high frequence energy. Appertely our brain extract the tonal balcance from the reverbant field, and not from the direct field. So I had to weaken my compensation by 3to4 db.So after this long introduction (sorry for all the reading you had to do), here are my questions :* What else is there to compensate for ? I know about phase alignment, but this I will do the "hardware" way, by putting the driver on the same axis of the woofer. This is possible because a 2380A horn is a really short horn ?* Crossover frequency ? I was considering 500Hz (limit of driver and horn) because I my opinion the high freq driver then start "slowing down" and the mid-bass driver is still "pretty fast". At 800 or hiher the mid-bass (a 15 inch) is pretty slow and the high -frequency driver is really fast. This sudden chage is something you hear quite clearly. But after reading severall post on this asylum the most commen crossover frequency seems to be 800 Hz ? I agree if you are planning to go really loud (PA-use) but for home use....?* Crossover slope. I normally use 12db/octave because in my opnion it sounds more musical then 24db/octave. I have no experience with 18db/octave.I must admit haven't had the time to read Wayne Parham crossover document, maybe many of my question will be answered in there, but I thought I coudn't harm to ask about it also.Thanks for any advice GreetzWim