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Subject: Rise in Spl with third order 11 khz high pass around 5.5khz

Posted by [Lothar](#) on Wed, 01 Aug 2001 22:23:50 GMT

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Hi Wayne and forum, Wayne put me on track with some experimenting with piezo's. I am using two parallel ksn 1005 piezo's together with a tannoycheviot speaker with the HPD 315 dual concentric unit. The goal is giving some air to the upper octave somewhere between 10 and 20 khz. First I asked Wayne for the value of the cap in creating a first order high pass filter starting at prox. 20 khz. Stimulated by the results I calculated a third order high pass, starting at prox. 11 khz. Setup: 20 ohm resistor parallel to the 2 piezo's, 1.5 ufd in series, .22 coil to mass and then .49 ufd in series again. Not altogether unsatisfied with the sonic result (It really gives "some air"), I connected a sinus generator to the amp and gave it a sweep. I put a radio shack Spl meter in front of the Piezo's so that I also had some visual control over what I was about to hear. Well, to come to the point, I was a bit disappointed about the output above 16 khz and, most important, I noticed a sharp audible and measurable increase in output sharply around 5.7 khz. In fact, according to the spl meter, the output was somewhere around 5 db higher than on 12 khz. And that after I thought I am using a third order 11 khz high pass! Is it possible that I have to use something that is called a notch filter? Well Wayne and the rest, I hope that you have some time for a suggestion. Robin.

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