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Subject: Re: dipole woofers and harmonics

Posted by [Wayne Parham](#) on Thu, 08 Jul 2004 10:28:51 GMT

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I see the biggest improvement from shorting rings above 100Hz, probably because they don't have to be as large to be effective. To get reduction in second harmonics down low requires a larger ring. On the other hand, the use of complementary drivers as you've shown works best at low frequencies. At very low frequencies, coupling between drivers in a small chamber is high but as the frequency goes up, the distances involved cause a lack of coupling that reduces the effectiveness of this approach. So I think that's why the push-pull configuration you've shown is found only in bass subsystems. You can use a shorting ring to good effect in midwoofers and midrange drivers. I'm hoping the B12 subwoofer is successful in reducing 2HD below 50Hz and that Eminence is able to provide a good high quality subwoofer with an effective shorting ring, but until someone does, the push-pull idea might be one of the best ways to reduce second-order harmonics at very low frequencies.

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