Subject: Re: crossover point
Posted by Duke on Tue, 17 Jun 2008 04:30:27 GMT
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Okay, the same phenomenon of cancellation by the time the soundwave gets to the other edge, like we had with a single cone, takes place with the two cones in a dual-woofer format (assuming both woofers are active up to the crossover region). Because the distance between the outer edges of the two cones is much greater than the distance across a single cone, beaming in that dimension sets in at a much lower frequency. MTM places the two cones farther apart than TMM does, so MTM beams more in the vertical plane (below the crossover frequency) than a TMM does. On the other hand, a TMM puts the effective center for the midrange frequencies physically fairly far below the center of the high frequencies. So, in choosing between the two, I'd look at where the crossover frequency is. If the crossover frequency is around or below 1 kHz, I'd go with a TMM as the ear is not very good at detecting the height of a sound source down that low. But if the crossover is much above 1 kHz, I'd probably go with an MTM. Now with either one of these formats, assuming a dome T, you will have an even greater radiation pattern discrepancy in the crossover region than if you were only using a single woofer. So, many designers go with a "2.5 way" TMM format - that is, the lower woofer is only active in the bass region, and then it is rolled off well below the main crossover point, while the upper woofer remains active all the way up to the crossover.Hope this helps.Duke