Subject: It depends...
Posted by Duke on Sat, 27 Jan 2007 06:21:55 GMT
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The ear is extremely poor at resolving the height of a sound source below 500 Hz. It's still not very good at 1 kHz, but from there its vertical acuity increases rapidly and peaks around 4 kHz. That being said, most crossovers aren't brick-wall filters, and most large-diameter cones have serious on-axis peaks between 1 and 2 kHz. Crossover type can make a difference too, from what I recall.So, at the risk of over-generalizing:1. The lower the crossover, the closer you can sit.2. The closer the vertical distance between the drivers, the closer you can sit.3. The steeper the crossover slope, the closer you can sit.4. The smoother the out-of-passband response from the woofer, the closer you can sit.5. Even-order crossovers integrate a bit better at close range than do odd-order crossovers.I'm sure this is incomplete, but it's a start.Regarding the example you give, in most cases I'd expect the 5" plus dome to work better up close simply because the angular separation between the drivers is so much less. However, with a suitable crossover the 15" plus waveguide just might work better up close. Perhaps the ideal for ultraclose range is a coaxial driver.Duke