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Subject: Re: shouting voices

Posted by [Wayne Parham](#) on Thu, 27 Aug 2009 03:48:38 GMT

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Room modes definitely exist up into the lower midrange. If the speakers sound right outdoors, then it's the room. That's a relatively easy test.

If it's the room, I'd suggest trying a multisub arrangement. The idea is to make an array of subs to smooth the modal range. Of course, this will only work if the subs are crossed in the range that's causing trouble. You don't generally want distant subs low-passed too high, so you might stagger crossover frequencies with the closest subs crossed higher than the more distant ones.

Subs placed near the mains are what I call flanking subs, because they are placed physically close (usually between four and eight feet from the mains) and low-passed in the lower midrange, 80Hz to 120Hz, sometimes a smidge higher or lower. The idea is to smooth the modes with dense interference, a sort of by spatial averaging.