

# Dear SoundMan Help – It's Too Hot In The Middle

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*Dear Soundman - Both when testing on the floor and with the one now hanging in the gallery, I'm noticing a pretty hot little 10 or 15 degree zone in more or less the center of the horn that seems to have a significant 1-2K peak. Is this typical of the QRX horns? Having a hard time getting those frequencies out to the seats around the center of the coverage area without killing the people in the center with 1-2K. Any tricks? -B-*



Dear B,

I ran the following polars on your boxes in passive mode and they do exhibit some lobbing in the 1.25k to 2k region and then smoothes out again. This issue is not coming from the horn. The horn, by itself, does not have any beaming problems particularly at such a low frequency. What you are experiencing is, at the crossover point of the loudspeaker system the output from the horn is interacting with the output from the woofer and is causing comb filtering.

Using an active crossover, instead of the passive one built into the box, should do a better job of controlling this behavior and reduce it to a minimum. I believe the specifications quote a crossover frequency of around 1.8k although the polars suggest suggest something a little lower. I doubt that the

passive filter in the crossover is anything greater than a 2nd order (12db/oct) filter which would explain the lobbing as the horn and the woofer overlap in frequency response. The boxes are designed to be switchable to bi-amp mode by way of a switch on the back connector panel. Using an active system controller (crossover) with a 4th order LW filter (24db/oct) and time alignment (delay) should help smooth the polar response in the crossover region.

Sincerely – SoundMan –

