
Subject: Re: Tim's 4Pi Speaker Build

Posted by [Wayne Parham](#) on Tue, 27 Jan 2015 16:43:29 GMT

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Your chart with the green plot is what the response looks like when measured in the forward lobe. The forward lobe is between $\pm 20^\circ$ of the center of the speaker, normal to the baffle.

At the edges of the lobe, you'll see nulls like your red measurement charts show. Then as you move the microphone further outside the pattern, you'll move into the secondary lobes. Response in the secondary lobes has no nulls but HF is rolled off.

You can see measurement of these lobes and nulls in the "Vertical Nulls" video at the link below:

Crossover optimization for DI-matched two-way speakers

You may have had polarity right initially, but measured in one of the nulls that are 20° above or below the forward centerline. Please see the notes in the crossover schematic for wiring. The 2226H should be connected with red to 2- and black to 2+, which seems backwards. The DE250 also is connected like this, with black to 1+ and red to 1-.
