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Subject: Re: Flanking Subs vs Helper Woofers  
Posted by [andy\\_c](#) on Thu, 07 Feb 2013 17:46:52 GMT  
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andy\_c wrote on Fri, 01 February 2013 14:12Edit: It may also be that I'm overestimating the complexity of the BassQ, as there hasn't been much information disclosed about it by Harman. Just to update this, I found some detailed information about the BassQ in the BassQ thread on AVS Forum. Roger Dressler posted a PDF of the patent application for it. I've attached it below, because I think one needs to be logged in at AVS in order to download it. It turns out that BassQ uses FIR filters and the matrix inversion process described in Welti's paper but not pursued further in that paper.

Also, after watching Earl's video for the umpteenth time, I heard him say that he uses six parametric EQs per sub, which seemed like a lot to me. So I asked Earl about that, and he says he uses up to six parametric EQs per sub, but can usually get by with one or two.

So given the typical implementation of Earl's approach with just one or two parametric EQs per sub, it seems that his approach is very close to what Harman is doing with SFM (which always uses one parametric EQ per sub), while the BassQ is rather different from SFM and Geddes in its use of FIR filters and matrix inversion.

It seems a bit strange to me that JBL introduced the BassQ in 2008, after Welti published AES articles that de-emphasized the approach used by BassQ. It's an interesting history.

### File Attachments

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1) [BassQ\\_patent\\_application.pdf](#), downloaded 374 times

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