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Subject: JBL 2226 Usage

Posted by [Wayne Parham](#) on Fri, 29 Jan 2010 01:10:54 GMT

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I meant to say this earlier, but then got busy with my morning things and just clicked "send". I wonder if what you're hearing (or missing) at low levels is a Fletcher-Munson thing. I could understand that, 'cause the deep bass needs more volume at very low power levels, according to the Fletcher-Munson curve and 2226's are really midwoofers. They're detailed to my ears even at the lowest levels. But deep bass drivers, they're not. Might try and add subs and see what you think.

Your three-way approach might work nicely too though. One thing I like about that is it gets all the vocals and most instrument fundamentals from one source, the midrange or fullrange driver. The woofer just covers the modal region, which is an entirely different animal. So it lets you deal with that specifically, and just by having the two sound sources overlapping in the upper modal region, you'll get some smoothing. Just run a first-order low-pass on the woofers somewhere in the 150Hz to 200Hz range and let the mids run all the way down, overlapping as far down from there as they'll go. This give more sound sources below the Schroeder frequency, which most agree is a good thing.

As for polarity, yes, the 2226 has what most would consider to be reversed polarity. Positive on the black terminal gives forward cone motion. So in general, you'll want to connect the woofer with positive to black. But when you start measuring stuff, sometimes you want it the other way around depending on driver spacing and crossover phase.

If you crossover as I suggested around 200Hz with a low-order low-pass on the woofer and run the mids all the way down for overlap, this becomes a different issue, even more complex because it includes room modes. It is non-trivial to know what is the "right" or "wrong" way to connect, because what combines constructively in one area of the room will probably combine destructively in another area of the room, forming modes.

Room modes are why it is good to have several sound sources, because where one driver self-interference (from a wall, ceiling or floor) forms a null, another driver self-interference may form a peak, somewhat averaging to smooth the overall sound field. This kind of thing only happens from about 200Hz down, and so this peculiar arrangement using several sound sources having several phase relationships only really works in these lower frequencies. Above that, you really want a single sound source, or where multiples combine, they should be in phase.

Long story short: Remove the 500Hz crossover and instead use a 5mH coil in series with the 2226. Don't use a series cap on the FE167 - let it run all the way down. I'll bet a months worth of lunches it sounds waaaaaay better that way.