Subject: Re: Definimax 4012HO - End of Life
Posted by Wayne Parham on Fri, 11 Oct 2019 18:16:47 GMT
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Check out this document from Eminence's website:
Understanding Loudspeaker Data
It shows what each of the electro-mechanical parameters describe.

As for flanking sub setup, generally, we want 100Hz, second-order. I've found some combinations that aren't exactly that, but this transfer function seems to work best. The relatively gentle slope from a second-order filter leaves a lot of energy in the 100Hz to 200Hz octave, and it rolls off smoothly, roughly conjugating baffle step.

What we're trying to do is to blend each main speaker with the sub that's flanking it through the upper modal region, generally from about 60Hz to 150Hz or so. Blending lower is fine, actually desirable, but below 60Hz we get more benefit from distant distributed multisubs. The content below 60Hz from flanking subs is useful for extension, but doesn't help much with modal smoothing. Again, modal smoothing below 60Hz is achieved by distributed multisubs.

Baffle step occurs in the same 100Hz to 200Hz region for speakers this size so we want energy to fill-in the region below baffle step both for overall on-axis amplitude response and also for SBIR and modal smoothing.

Above 150Hz, we start to become localizable. That's not a hard-fixed number; I actually like to see the energy trickle off slowly between 150Hz and 200Hz somewhere. But we just can't run the flanking subs too high. I've found that 100Hz second-order is the "Goldilocks filter" for flanking subs.

I've actually found some amps with built-in bass and treble controls that can be adjusted for a pretty good flanking sub curve. You just turn the treble all the way down and turn the bass all the way up, and the resulting transfer function works nicely for flanking subs. It's a happy accident, I suppose. Level-set the amplitude of the subs to match the mains and you're done.

One example is the Audiosource AMP100VS. It's just a 50 watt amp, but that works well for people that have 10 watt SET amps for their mains. There are probably many other products of this type. If an amplifier has built-in tone controls that use second-order filters, and if the bass adjustment frequency is 100Hz or so, then the amp will work very well for flanking subs.

I've attached the spec sheet for this little amp. See the link below. You'll notice it lists the bass control as being a second-order 100Hz filter. That's what we want. Nice that the bass and treble controls are on the back too, 'cause that way it's out of sight. They're just set to make it a flanking sub amp.

Look for amplifiers like that.

When searching for amplifiers for your flanking subs, you can always try out a product and send it back if it doesn't blend well. Just open the box carefully and keep all the packing material so you

can repackage it properly if it doesn't serve your purpose.

File Attachments

1) AMP100VS.pdf, downloaded 877 times