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Subject: Re: Definimax 4012HO - End of Life

Posted by [Wayne Parham](#) on Tue, 03 Sep 2019 21:02:42 GMT

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I'm not ready to make an announcement, but I can give a status update.

I have a pair of Eminence Delta Pro 12A woofers and a pair of B&C 12PLB100 woofers here to test with.

Both look like they will work very well from modeling and from free-air measurements.

But when I went to install the 12PLB100 into my cabinet to test with a couple weekends ago, I realized it wouldn't fit. So I put off testing for a couple weeks. I had lots of projects going (and still do) so the fail-to-fit problem pushed me to work on something else.

The cabinet I'm using has been routed for flush fit of a driver with 12-3/8" basket diameter, which is what the Eminence drivers have. The 12PLB100 has outside diameter of 12-1/2" so I need to have the cabinet routed to fit.

I could also use another test cabinet I have in storage to test with. So one way or the other, my plans are to test this coming weekend.

I could have tested the Delta Pro 12 first. And I may still do that. But I really want to focus on the B&C driver 'cause it has a shorting ring.

Then again, the Delta Pro 12 will be a great driver too. I think you were right to suggest it, and it was your prompting that made me reconsider it. It will be a lot like the Omega 15A option in the

I am optimistic about both the 12PLB100 and the Delta Pro 12 because they both have the right characteristics. There are three basic requirements over and above the obvious desire for good build quality.

The first and the second are inter-related, being that the electro-mechanical parameters must provide specific sensitivity and EBS alignment in this cabinet. Typically, drivers built with the motor strength and suspension stiffness to get the alignment we're after also provide the sensitivity we need for this kind of speaker. But some drivers don't work in this design, and produce an underdamped curve.

What we need is an EBS alignment that provides extended bass without any peaks, and it dove-tails perfectly with the flanking sub approach. Between baffle step and the cabinet alignment, using the flanking subs act as a 2.5-way system that offers flat amplitude response with deep bass extension. It also smoothes the self-interference notches and higher-frequency room modes.

So this alignment is a perfect natural mating for flanking subs and multiple subs. But it also sounds great without subs, because even though the response below 100Hz falls off, it is only

slight and there is still usable response way down to 30Hz.

In addition to the electro-mechanical properties, we have a requirement of the cone to be well damped, so that it is smooth above 1kHz. Many drivers - even some that are of high quality - do not have cones with sufficient internal damping to prevent cone flex and they get ragged above 650Hz. This can't be determined by electro-mechanical specifications or models, but it can be seen in free-air response measurements, even without the cabinet.

Both drivers satisfy each of these requirements and should prove to sound very good in the three may perform perfectly using the same crossover components as the Definimax did. Or they may require minor changes in component values in the low-pass filter or sometimes just a nudge of the Zobel capacitor.

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