
Subject: Combo B&C DE250 with Altec 811
Posted by [Arthur C](#) on Thu, 20 Jan 2022 19:29:32 GMT
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Hi,

May I kindly request some help or feedback concerning a crossover design.

Does a member has already tried the combo B&C DE250 With Altec 811B

I am planning to build a new 2 way configuration a speaker between Klipsh Cornwall and 4 Pi speaker.

The idea is to use a 96 dB 15" carbon fiber woofer (Davis acoustic speaker 40 RCA15 DF) with Altec 811 B horn and B&C DE250 compression driver.

A 1k6 cutoff frequency seems not appropriate for my woofer, a 800 HZ cut off should be great in a 12db/18db configuration.

According to Wayne's documentation the crossover should be as follows:

- Concerning the woofer : Zobel : 8 ohms + 22 UF capacitor

L2 : 2.00 MH

C4 : 20 UF

- Compression driver and horn :

C2 : 16 UF

L1 : 1.2 mH

C3 : 47 UF

R1 = 20 ohms

R2 = 14 ohms

C1 = 1.6 uF.

Concerning C1 : a reduce capacitor should flatten the frequency response ?

Should high frequencies have to be boost I could add a super-tweeter

May I kindly ask you if this configuration could be accurate ?

Any proposal will be welcomed.

Subject: Re: Combo B&C DE250 with Altec 811
Posted by [Wayne Parham](#) on Thu, 20 Jan 2022 23:02:31 GMT
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The Altec 811 creates a pattern that narrows as frequency rises. So it shouldn't use the same kind of crossover. Specially, the values for R1, R2 and C1 won't be appropriate for the 811. A straight attenuator or L-Pad is going to be more suitable.

Subject: Re: Combo B&C DE250 with Altec 811
Posted by [Arthur C](#) on Fri, 21 Jan 2022 13:36:47 GMT
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Hi Wayne,

Many thanks for your feedback and your explanations.
Then in my understanding, I can keep the upon mentioned crossover and substitute a L-Pad to the other ^part of th circuit.
Just one little question, would it be possible to compensate the trembles.
Many thanks best regards;

Subject: Re: Combo B&C DE250 with Altec 811
Posted by [Wayne Parham](#) on Fri, 21 Jan 2022 15:14:30 GMT
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That's right. You don't need the response modification created by R1/R2 and C1 because they provide equalization for mass-rolloff, which is acoustically equalized by the collapsing directivity of the Altec horn. So use an L-Pad instead.

You can, of course, provide any other sort of (active or passive) equalization to suit your taste.

Subject: Re: Combo B&C DE250 with Altec 811
Posted by [Arthur C](#) on Mon, 24 Jan 2022 18:23:38 GMT
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Wayne,

Many thanks for your feedback and clarification.
I have built a 4Pi Speaker which works very well. A very nice speaker.
My new project with a 15' carbon fiber woofer is not really suitable for a frequency cut off too high.
I will review my crossover concerning the Altec 811.
I have seen a nice horn (very cheap) that should be nice also.

<https://sono.e44.com/sonorisation/haut-parleurs/haut-parleurs-autres-marques/pavillon-abs-moteur-sono-465-245mm-MHD5P.html>

Many tanks for our help.
Best regards.
Arthur.

Subject: Re: Combo B&C DE250 with Altec 811
Posted by [OutOfSpace](#) on Mon, 24 Jan 2022 20:54:39 GMT
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Arthur,

One important detail; the B&C DE250 isn't intended to be used down to 800Hz. Altec drivers would be one option if that x-over frequency is required for your chosen woofers. Another would be to build a 7-Pi type design with the 811's and the Pi midhorn. That arrangement was very satisfying for me, although I've since built proper 7-Pi's with Wayne's horn and crossover instead.

Chris

Subject: Re: Combo B&C DE250 with Altec 811
Posted by [Arthur C](#) on Tue, 22 Feb 2022 14:21:40 GMT
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Dear Wayne,

Just one little question.
You have published the frequency response of Altec 811 + PSD.
I think that frequency response should be nearly the same with DE 250.
In your publish frequency response with 1.6 K filter.
For your test do you have used the 4pi speaker cross over with "Pi" compensation ?
I have already made a 4pi speaker and I would like to substitute the horn by the Altec 811.
Best regards.

Subject: Re: Combo B&C DE250 with Altec 811
Posted by [Wayne Parham](#) on Tue, 22 Feb 2022 15:24:03 GMT
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I measured the 811 horn (on-axis) with a variety of networks. You'll notice the ones without CD compensation had response that was nearly flat or just slightly falling as frequency rises. Both are pretty natural sounding. The ones with CD compensation showed response that was rising, and they sounded a little too bright.
