

Upgrading Vintage Speakers

General advice and considerations

When upgrading your vintage speakers using a re-designed crossover It is important to consider if you want your vintage speakers to sound different or “better” according to modern notions of how speakers should sound, or if you want to keep the vintage sound of the speakers, including any “shortcomings/dullness/flatness” they were born with.

Jantzen Audio offers some DIY crossover upgrade kits for a handful of vintage speaker models, which were all designed by loudspeaker designer, Mr. Troels Gravesen.

The idea behind the re-designed crossovers was to correct what Mr. Gravesen perceived as shortcomings and to make the speakers perform at their full potential.

Without designing a new crossover from scratch, it will always be an estimation, what effect (if any) it will have to upgrade the stock crossovers with better crossover components.

It is important to note that swapping the stock components to new components of the same grade may not give any noticeable improvements.

As an example, it is most often needed to upgrade to a better grade of capacitors to obtain an audible improvement, even if improvements may be subtle.

We would advise that you read Mr. Gravesen’s articles for the re-designed crossovers and the feedback from customers who upgraded their vintage speakers using the re-designed crossovers, before deciding if it is right for you.

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Important things to consider:

- What is the condition of the drivers in your vintage speakers, are they in proper working condition or should your first step be to have your drivers refurbished?
If so, you cannot be sure that the driver(s) will perform exactly the same as it/they did some 30-50 years ago, thus a redesigned crossover may be necessary for changes in frequency response, phase and impedance.
- Will there be room in your enclosures for the larger crossover boards that upgrading to better components will most often require or are you willing to make external crossovers?
- What is the condition of stock coils and resistors and can they be re-used?
Pay notice the Ohmic resistance of the coils may very much be a part of crossover functioning. It is necessary to measure the Ohmic resistance of the coils with a precision milliohm meter. A standard multimeter is not good enough for this, as we are measuring resistance of e.g. 0.1-0.5 Ohm.
- Do your speakers have L-Pads/Attenuators or any kind of other “switch” systems in place that you have the know-how to transfer to the new crossover boards or alternatively, would you be willing to sacrifice such features when upgrading the crossovers?
- Do you have the required experience with crossover assembly?

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What we can and cannot offer:

- We can offer DIY crossover upgrade kits for the following speakers only:
 - B&W 802 Matrix
 - Dali 800
 - JBL L100 (4310 / 4311), JBL L112, JBL L26
 - Tannoy MG15/MG12 monitors
 - Yamaha NS1000
- We cannot offer to design custom new crossovers for vintage speakers, as it would require Mr. Gravesen to have the speakers in his workshop, which is extremely time consuming and unrealistically costly
- We can offer general advice about component upgrades (mainly capacitors), if we are sent the following material:
 - Crossover schematics with component values for your specific model
 - If you wish to upgrade the induction coils, we also need to at least know the value and wire gauge of the stock coils, to determine estimated DCR target values
 - High-res photos of your stock crossovers to determine which types of coils, capacitors and resistors were used