

## **Fris KEF Daline modification – cheap and effective!**

I built a pair of Dalines back in the 1970s using the KEF B110, KEF T15 and Coles 4001G. The results were good, particularly the bass transients, but I was never entirely happy with the overall sound. It was much better than many speakers of the day but the mid bass seemed a little thin compared with the lower bass and the midrange was slightly muddled. The treble was sweet and very good on woodwind. They continued in daily use, although I built many other speakers in the meantime. I decided recently to take another look at the Dalines to see what could be done to improve the sound in the light of current knowledge. I was amazed by the improvement I got with some very simple measures.

Replacing the original anti-reflection plastic foam with felt carpet underlay on all internal surfaces of the upper box (other than the speaker baffle) gave an instant cure for the muddled mid range. I added self adhesive bitumen pads to the back of the upper box (on the outside as it was easier) to increase the damping of that panel. The other surfaces are pretty well self damping, being only 6 inches wide.

Fris had used a mixture of BAF wadding and terylene wool to stuff the interior of the upper box. I experimented with the amounts of each but could not obtain much of an improvement. I had some long hair wool left over from another project and decided to try that instead. No change can be made to the  $\frac{1}{4}$  wave pipes as they are inaccessible. They are only very lightly damped in any case.

The volume of the upper box, after you subtract the internal battens and allow for the volume of the B110, works out at 0.355 cu.ft. (a little over 10 litres). I experimented in the range of 10 to 12 oz. long hair wool per cu.ft. 100g of wool (3½ oz) per speaker, well teased out, produced a rather bright sound that was initially convincing but tiring to listen to after a while. Increasing it to 125g (4½ oz) per speaker gave me exactly the sound I wanted.

The improvements:

The stereo focus is vastly better. Instruments are nicely spaced with air between them and projected well out of the boxes.

Strings, woodwind and brass seem more realistic and the sound is more detailed.

The dynamism of percussive instruments throughout the whole range matches that of the low bass, which was always good.

Bass extension is unchanged but is smoother and the mid bass now matches the rest in level and quality.

The sound is now very similar to that of my Stax electret headphones, except the Dalines go deeper.

To anyone who still has a pair of these old Dalines, I suggest you try this very simple mod. All you need is some bitumen panels, carpet felt and 250g of long hair wool for the pair. The cost won't break the bank, even if you are not as pleased with the results as I am.

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