Modifying Scan Speak's 8" 8554 as done by Steen Duelund.

## WARNING:

It is strongly advised that only individuals with good mechanical skills attempt to follow the guide, as there is a real danger that the loudspeaker driver may be damaged. Should you choose to subject a driver to this modification, you do so at your own risk as you might ruin what is otherwise a very good 8" driver. Again, this procedure might render the driver defective.

Please note that the following is a "how to" not "why to" modify the 8554.



The dustcap is carefully removed with a scalpel (water may be used to desolve the glue). 3 or 4 strips, app. 20mm wide, are cut from a playing card (a normal card can be too thick so a thinner piece of cardboard can be used) and subsequently placed evenly around the voice coil keeping it in it's "neutral" position and creating the airgap that the thread suspension should ultimately ensure (note that only one card strip is placed in the voicecoil on the picture). Scan Speaks own phaseplug will fit the copper ring and is easliy fitted using a plastic hammer or similar.



Scan Speak phase plug

Before removing the dustcap it is advisable to countersink the mounting holes so the screws utilised are level with the frame of the driver's basket.

When designing a speaker unit or enclosure make sure that no legdes, egdes, holes, knobs, or any other irregularity are present to disturb the sound waves emanating from the unit.

The spider is removed by carefully using a scalpel. Be very careful not to damage the voice coil when doing so.



A fine thread is placed along the side the voice coil and pulled around the opposite chassis pillar and back, where it is tied and glued.



This procedure is repeated three times so that in total 3 threads are mounted with each 2 fix point on the voice coil. When the glue on the 6 chassis pilars is dry a drop of glue is placed on the voicecoil fixpoints to secure the threads.



When the glue is dry the cards are removed from the air gap. You should now have a working thread suspension. If not repeat the procedure and try to further tighten the threads. The thread used in the DCA speaker is a silk/mohair thread chosen due to its sonic silence, but a pure silk thread is also good.

The strings will NOT break at extreme excursion, and done correctly will need no adjusting.

When applying the extra magnet make sure that it "repels" the original magnet. Use tape to secure the magnet while the glue dries.

The coating on the diaphram is called Isopunkt, a bitumen based asphalt product for fixing roofs. It was added by Mr. Duelund with the aim of removing unwanted energy build up (resonances) in the diaphragm.





Frequency response

A near field measurement in free air. The modified unit displays a soft and steady roll off. The dips at 3.5 and 10 kHz can't be completely trusted as they are dependent on microphone placement.



T/S. (Please note that Qts. on this particular unit was measured at 0.31 prior to modification.) Also, the ripples evident at the resonance frequency are due to the measuring system used, and not the fault of the drive unit.

I hope this has proven useful.

Best regards

MFP

**Duelund Coherent Audio**