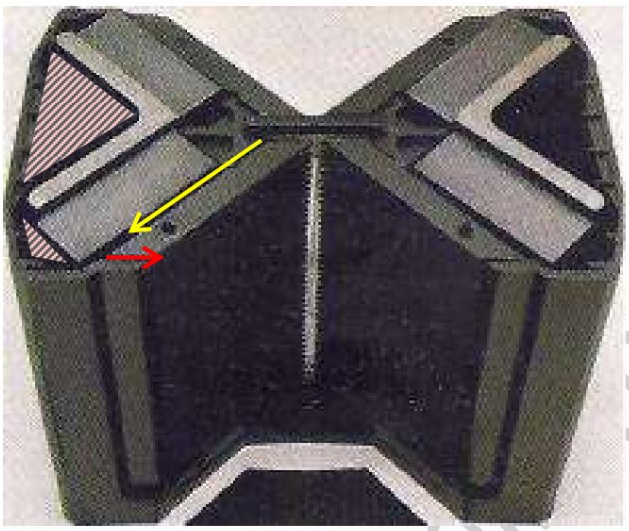
Modification of an ESS AMT-1

The cause of the ripple of our ESS AMT-1 around 5 kHz was the sound leakage at the end of the lamella pack (red arrow) over the entire height of the slot. As soon as you stuck it shut with textile tape, this waviness was eliminated.



The cause is probably some of the sound emitted from the outer lateral regions of the membrane, which reaches the inner workings of the AMT-1. Unfortunately, you cannot open the chassis as shown in the picture, because then you should also insert absorption material in the outer areas (pink hatched area).

Another irregularity occurs at 12 kHz. This could be linearized by an absorbing layer on the "lamella pack". As a "combination measure", we therefore covered the slat pack with dc-fix® velor over the entire height (= 138 mm) from the beginning of the "closed" slat pack to the back (= 264 mm long). The side part was then completely glued over. The effect for the dip at 12 kHz was very small, but this dip only occurs on axis. With stronger absorption on the plate pack, the range > 7 kHz was also attenuated too much.

We strongly assume that newer versions of the ESS AMT-1 still have this weakness at 5 kHz and will benefit from this conversion measure.

To dampen the mechanical resonance at 870 Hz, we also recommend completely filling the rear triangle with a triangular block made of Basotect (height 138 mm, base area see). The Basotect block increases the mechanical losses and thus dampens the resonance frequency. In addition, the radiation to the rear is reduced, which is usually very advantageous if the wall distances to the rear are too small.

Photos of the modified chassis: