

A High Performance loudspeaker featuring the SEAS Prestige FA22RCZ fullrange driver
Designed at the SEAS R&D laboratory.

FA22RCZ is a highly efficient full range driver capable of providing an astonishingly precise and coherent sound reproduction at a very reasonable cost. Driven by low to medium power, high quality amplifiers from good signal sources, it is capable of competing favourably with high cost, esoteric drivers.

Enclosure recommendation

We recommend using a closed cabinet of approximately 60 litres net volume. With no damping material the resulting resonance frequency and Q should be 54 Hz and 0.63 respectively. With suitable damping of the standing waves inside the cabinet, a smooth response with a gentle roll-off may be obtained. Glass fibre insulation material is well suited for damping, but precautions should be taken to avoid health risks. Dacron wadding is a good alternative, and much more pleasant to work with.

A bass reflex cabinet of 70 litres, lightly damped for standing waves and tuned to 33 Hz, will result in a QB3 response.

Rear loading horn cabinets are often used with drivers of this type. We encourage interested clients to experiment with such constructions and to share their experience. Care should be taken to avoid mechanical overload due to excessive cone excursions.

It is recommended to make the cabinet from high quality materials of adequate thickness. The cabinet sides should be cut precisely, so that they may be accurately joined together. Internal bracing and damping of structural resonances of the cabinet walls is recommended.

Good quality cables and connectors should be used throughout. Extremely heavy cables are not necessary as long as their series resistance is sufficiently low compared to the driver DC resistance. We recommend soldering of the cable connections inside the cabinet for trouble-free operation.

Listening room and placement

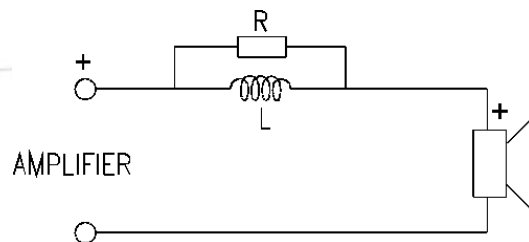
Good stands should be used to bring the drivers approximately to your ear level. Even if your listening room is good and large enough, it is important to find positions where the

loudspeakers can perform at their best. Placing the cabinets close to the walls or corners will result in more powerful bass, but may also bring about response irregularities in the bass/midrange area. Some experimentation is recommended in order to find cabinet positions which result in a good tonal balance and freedom from coloration.

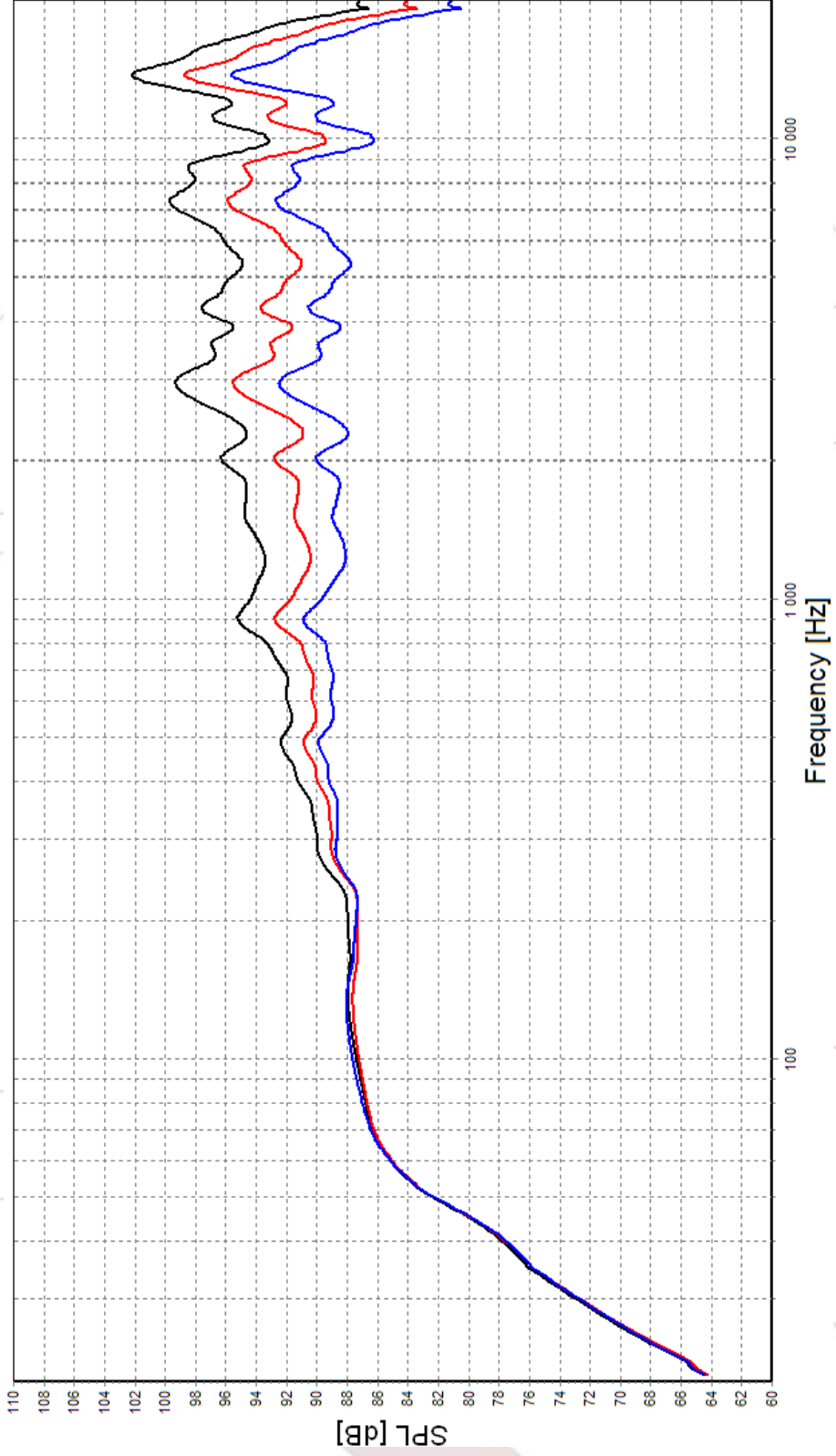
Pointing the driver axes towards the listening position in a classical stereophonic setup may result in an overly bright tonal balance. A good solution may be to further turn the cabinets so that the driver axes cross slightly in front of the listening position (toe-in). This may result in the desired tonal balance and at the same time a slightly wider listening zone.

Response adjustment

In an acoustically live listening room, it may become desirable to attenuate the high frequency output from the loudspeaker. This may be done by simply putting a parallel connection of an inductor and a resistor in series with the driver.



Please see the effect of two proposed networks on the axial sound pressure frequency response measured in a 60 litre closed cabinet. Black: No network. Red: 0.82mH and 6.8 Ohms. Blue: 1.5mH and 15 Ohms. The parallel resistor controls the high frequency attenuation. A larger resistance results in more attenuation. Metal film resistors of at least 5 Watts are recommended. Please make sure that the inductor is wound from a heavy conductor for a low series resistance, preferably less than 0.5 Ohms.

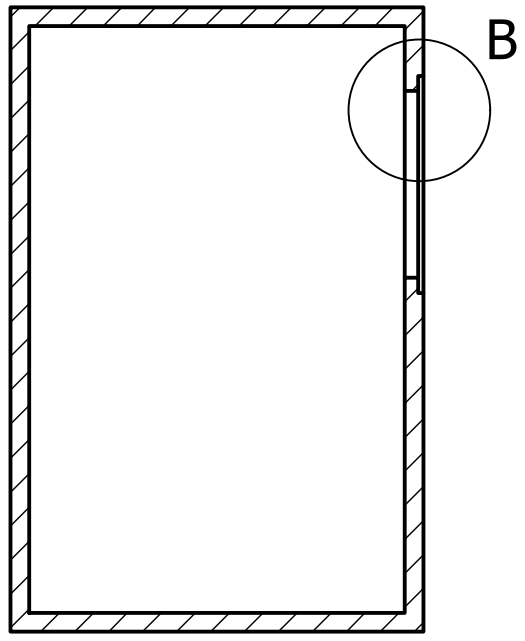
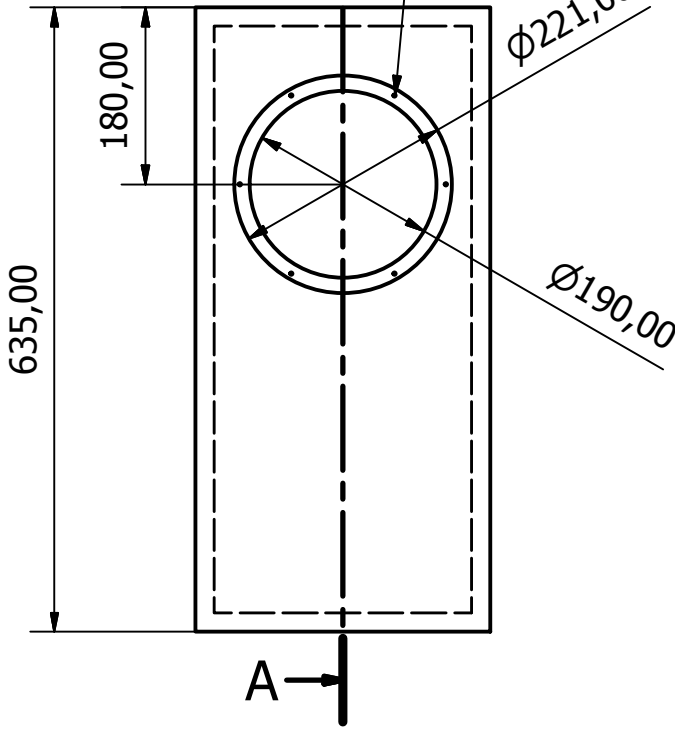




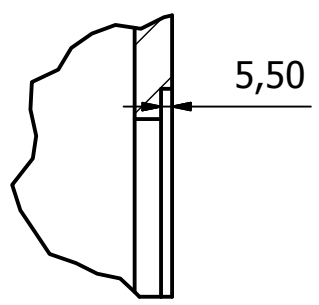
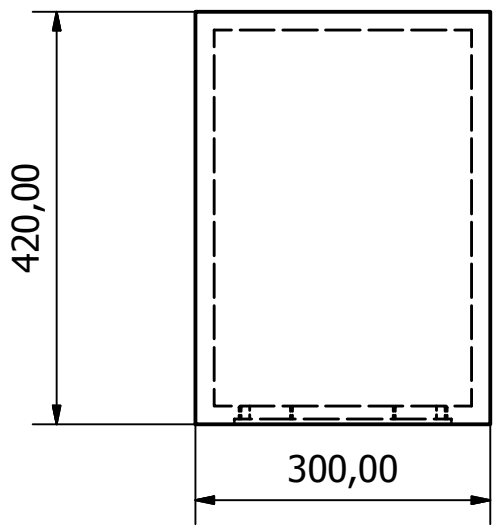
6 holes equispaced on $\varnothing 209.5\text{mm}$

A

A-A (0.13 : 1)



B (0.26 : 1)



This component must be clean and with a surface energy not less than 40 mN/m (dyn/cm).

Material: 19mm MDF

This component must be compliant with the European RoHS Directive (2002/95/EC)

This drawing is SEAS property. Every duplicating, utilization or conveyance to a third party is punishable - according to law.

Designed by haavard	Checked by	Approved by	Date	Date 02.11.2010
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Enclosure_AN_FA22RCZ Edition Scale

