

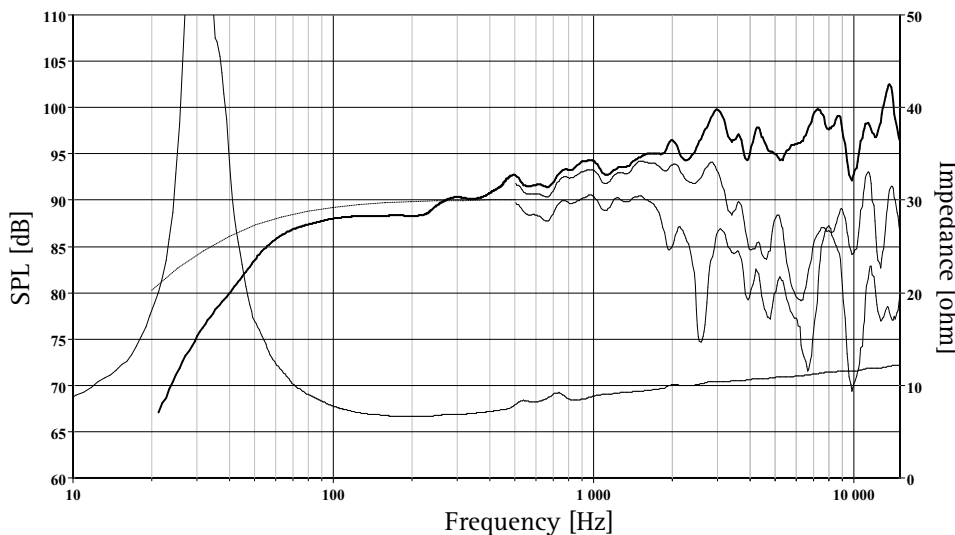
The FA22RCZ is an 8" full range driver offering astonishing efficiency and sound clarity.

A blue-gray paper cone with papyrus fibres, and a high frequency cone directly coupled to the voice coil set the air in motion. The surround is made from a flexible and stable foam rubber material.

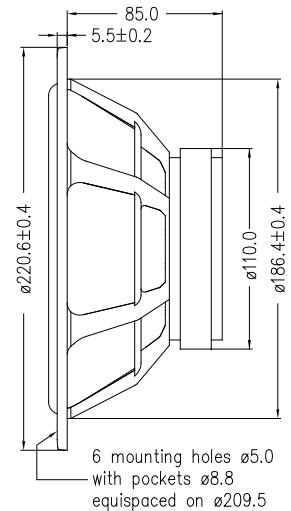
The large, open weave fabric spider reflects very little acoustic energy to the cone, and offers excellent stiffness linearity. A heat resistant, non conductive glass fiber coil former allows a high mechanical Q of the moving system.

A large ferrite ring magnet offers a high magnetic gap flux in a cost efficient way. The pole piece is prolonged forwards and equipped with a deep drawn copper cap to ensure excellent linearity in the force factor and coil inductance.

A stiff and stable injection moulded zinc chassis keeps the critical components in perfect alignment. Large windows in the chassis both above and below the spider reduce sound reflexion, air flow noise and cavity resonance to a minimum.



The frequency responses above show measured free field sound pressure in 0, 30, and 60 degrees angle using a 60L closed box. Input 2.83 V_{RMS}, microphone distance 0.5m, normalized to SPL 1m. The dotted line is a calculated response in infinite baffle based on the parameters given for this specific driver. The impedance is measured in free air without baffle using a 2V sine signal.



Nominal Impedance	8 Ohms	Voice Coil Resistance	5.7 Ohms
Recommended Frequency Range	30 - 20000 Hz	Voice Coil Inductance	0.09 mH
Short Term Power Handling *	110 W	Force Factor	6.4 N/A
Long Term Power Handling *	40 W	Free Air Resonance	30 Hz
Characteristic Sensitivity (2,83V, 1m)	94 dB	Moving Mass	12.6 g
Voice Coil Diameter	26 mm	Air Load Mass In IEC Baffle	1.92 g
Voice Coil Height	12 mm	Suspension Compliance	2.2 mm/N
Air Gap Height	6 mm	Suspension Mechanical Resistance	0.63 Ns/m
Linear Coil Travel (p-p)	6 mm	Effective Piston Area	222 cm ²
Maximum Coil Travel (p-p)	14 mm	VAS	134 Litres
Magnetic Gap Flux Density	1.1 T	QMS	4.36
Magnet Weight	0.6 kg	QES	0.38
Total Weight	2.05 kg	QTS	0.35

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

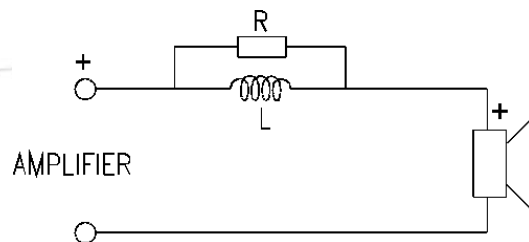
Good stands should be used to bring the drivers approximately to your ear level. Even if your listening room is good and large enough, it is important to find positions where the

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.

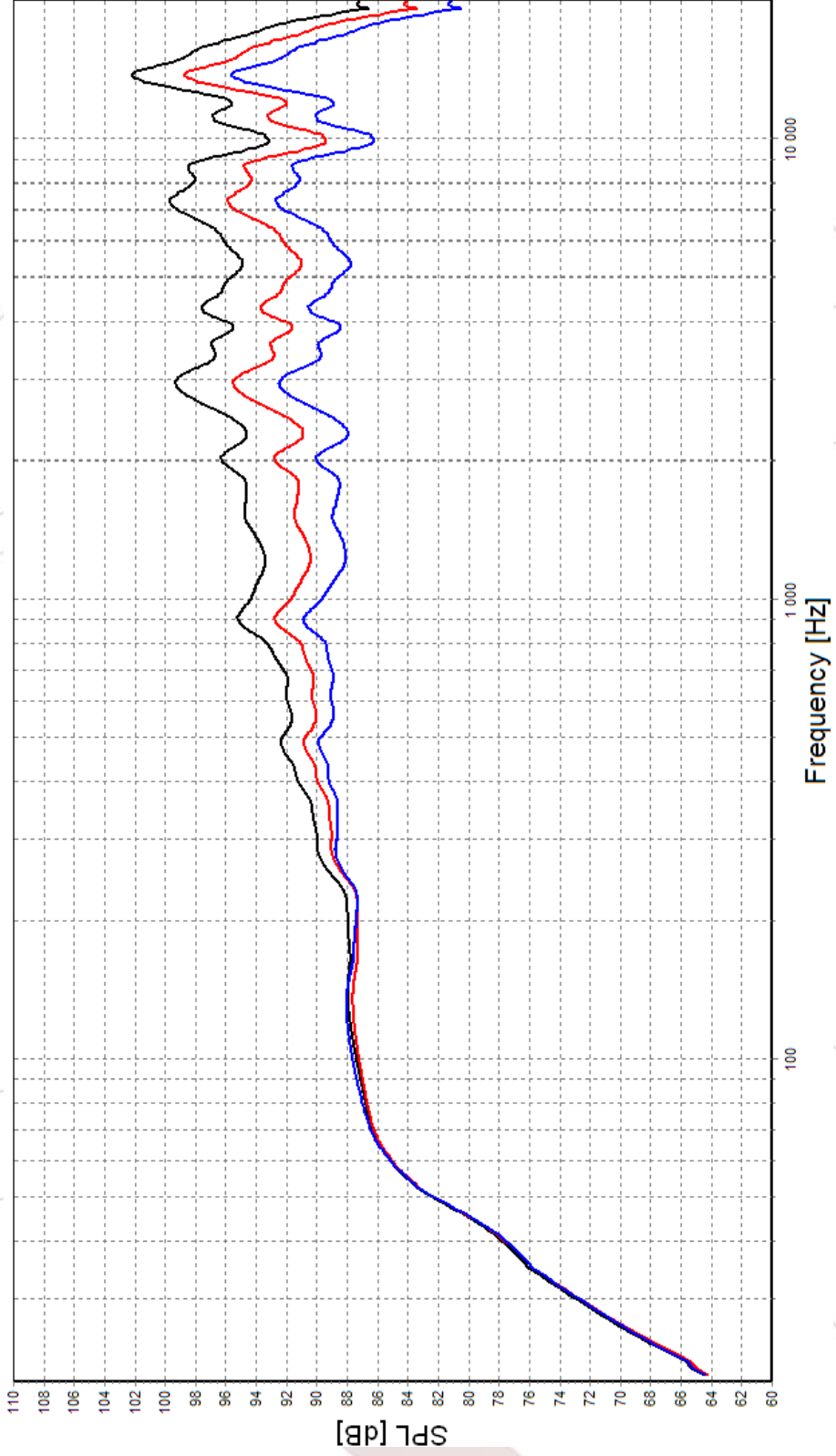
Pointing the driver axes towards the listening position in a classical stereophonic setup may result in an overly bright tonal balance. A good solution may be to further turn the cabinets so that the driver axes cross slightly in front of the listening position (toe-in). This may result in the desired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



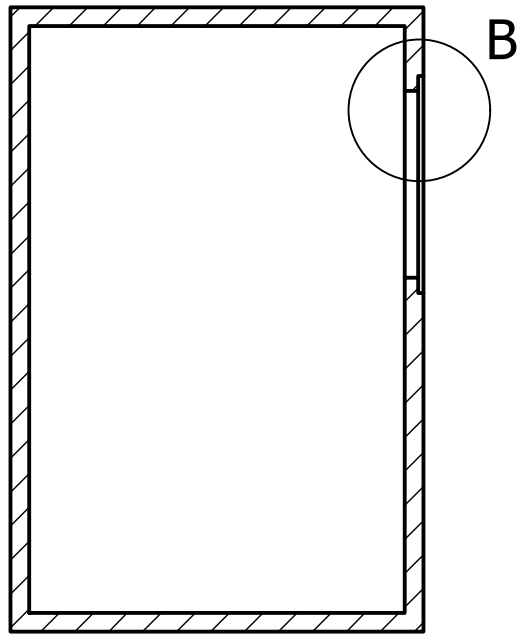
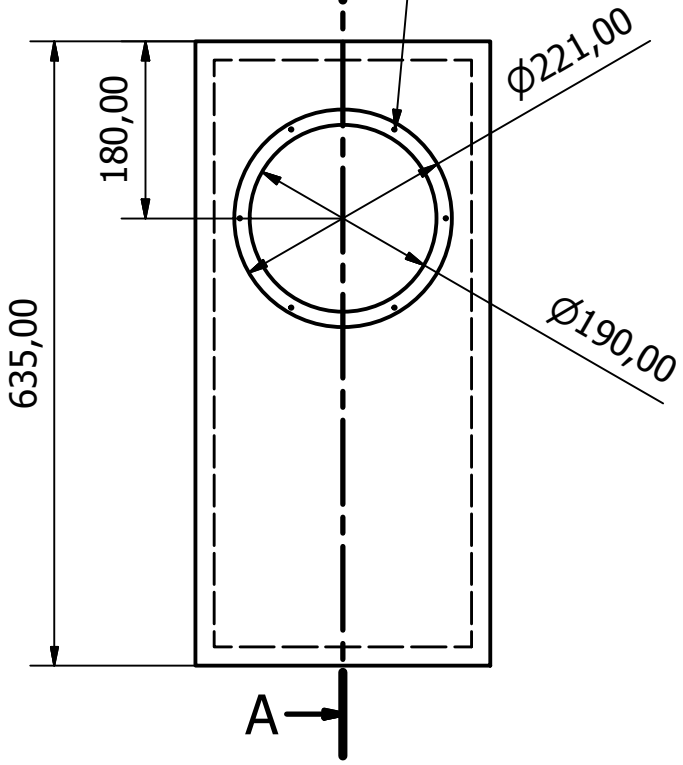
Please see the effect of two proposed networks on the axial sound pressure frequency response measured in a 60 litre closed cabinet. Black: No network. Red: 0.82mH and 6.8 Ohms. Blue: 1.5mH and 15 Ohms. The parallel resistor controls the high frequency attenuation. A larger resistance results in more 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.



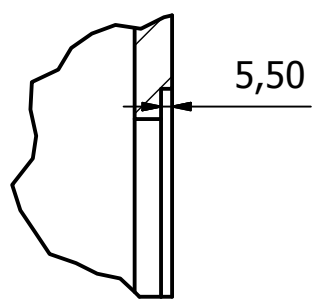
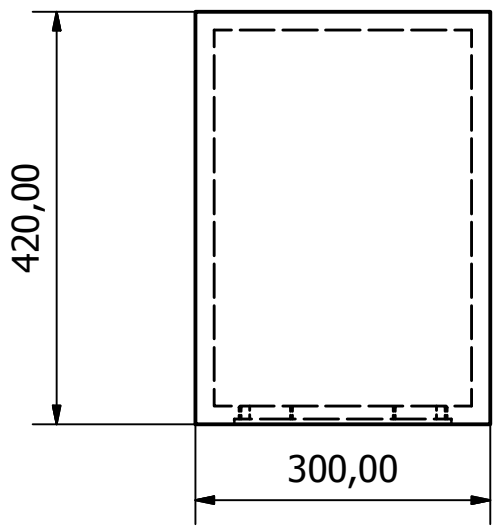


6 holes equispaced on $\varnothing 209.5\text{mm}$

A-A (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

