

Mortens højttalerprojekt



10.05.2020

DRIVERNE

SEAS coax C18EN002/A

This driver features a low-mass, surface-treated aluminium/magnesium alloy cone which behaves like a piston throughout the audible frequency range, without any sign of midrange resonances. The coaxially mounted aluminium/magnesium alloy dome tweeter has a low resonance frequency, and integrates with the cone driver to form a point source.

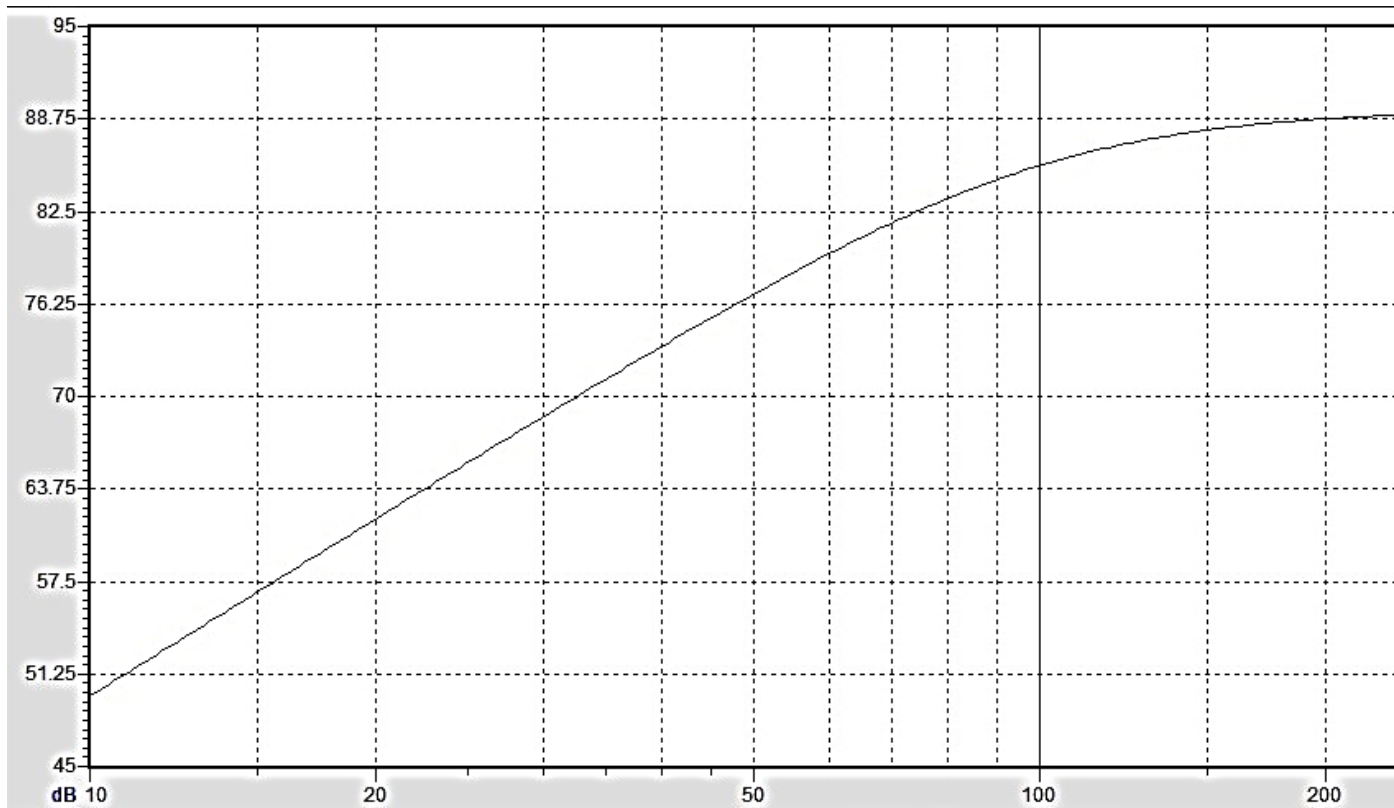
The cone profile has been carefully designed to optimally load the tweeter's radiation. A completely new rubber surround reduces resonances and prevents surround break up in the midrange band. The surround's small inverted roll, combined with a profile that follows the shape of the cone, results in almost total elimination of diffraction effects on the tweeter's output. The powerful neodymium magnet system, with its small profile and optimal shape, results in high midrange sensitivity with minimal back wave reflections. Heavy copper rings mounted above and below the T-shaped pole piece reduce nonlinear and modulation distortion and increase overload margin. The crown-shaped copper tweeter support ring eliminates any resonance coming from the cavity between the tweeter body and midrange voice coil former.

All of these features work together to provide a smooth and well behaved off-axis response throughout the entire operating range.



	Midrange	Tweeter		Midrange	Tweeter
Nominal Impedance	8 Ohms	6 Ohms	Voice Coil Resistance	6.2 Ohms	5 Ohms
Recommended Frequency Range	150-3000Hz	2000-25000	Voice Coil Inductance	0.62 mH	0.05 mH
Short Term Power Handling *	250 W	200 W	Force Factor	8.8 N/A	3.1 N/A
Long Term Power Handling *	100 W	90 W	Free Air Resonance	98 Hz	1430 Hz
Characteristic Sensitivity (2.83V, 1m)	87 dB	90 dB	Moving Mass excl. air	15.7 g	0.4 g
Voice Coil Diameter	39 mm	26 mm	Air Load Mass In IEC Baffle	1.69 g	-
Voice Coil Height	12 mm	1.6 mm	Suspension Compliance	0.17mm/N	-
Air Gap Height	6 mm	2.0 mm	Suspension Mechanical Resistance	4.95 Ns/m	-
Linear Coil Travel (p-p)	6 mm	0.4 mm	Effective Piston Area	131 cm ²	7 cm ²
Maximum Coil Travel (p-p)	12 mm	-	VAS	3.7 Litres	-
Magnetic Gap Flux Density	1.1 T	1.56 T	QMS	2.16	-
Magnet Weight	0.95 kg	-	QES	0.86	-
Total Weight	1.44 kg	-	QTS	0.62	-

Simuleret respons for SEAS coax C18EN002/A



Tuning

User... VB (l) 10 Fill (%) 80 Fc (Hz) 114.71 QTC 0.7257

No. drivers 1 Isobarik Connection Parallel

High Pass Filter Type None... Freq. (Hz) 0 Q 0

Baffle Width (mm) 0 Height (mm) 0

Cavity Simulation None...

Box nt. vol. liter

Fill %

Q-værdi

Box – closed
T/S parametre:
fs: 98 Hz
VAS: 3,7 liter
Qts: 0,62

Scan Speak 26W/4558T00



KEY FEATURES:

- 56mm Peak Excursion, 25mm Linear
- Low Resonance Freq. 21Hz
- Magnet System w. Alu Ring
- High Output 88dB @ 2,83V
- Anodized Alu Cone, Fibre Glass Dust Cap
- Die cast Alu Chassis vented below spider

T-S Parameters

Resonance frequency [fs]	21 Hz
Mechanical Q factor [Qms]	5.56
Electrical Q factor [Qes]	0.33
Total Q factor [Qts]	0.31
Force factor [Bl]	10.5 Tm
Mechanical resistance [Rms]	2.49 kg/s
Moving mass [Mms]	105 g
Compliance [Cms]	0.55 mm/N
Effective diaph. diameter [D]	212 mm
Effective piston area [Sd]	352 cm ²
Equivalent volume [Vas]	94.9 l
Sensitivity (2.83V/1m)	88 dB
Ratio Bl/√Re	6.51 N/√W
Ratio fs/Qts	68 Hz

Notes:

IEC specs. refer to IEC 60268-5 third edition.
All Scan-Speak products are RoHS compliant.
Data are subject to change without notice.
Data sheet updated: April 23, 2014.

Electrical Data

Nominal impedance [Zn]	4 Ω
Minimum impedance [Zmin]	3.3 Ω
Maximum impedance [Z0]	46.8 Ω
DC resistance [Re]	2.6 Ω
Voice coil inductance [Le]	0.83 mH

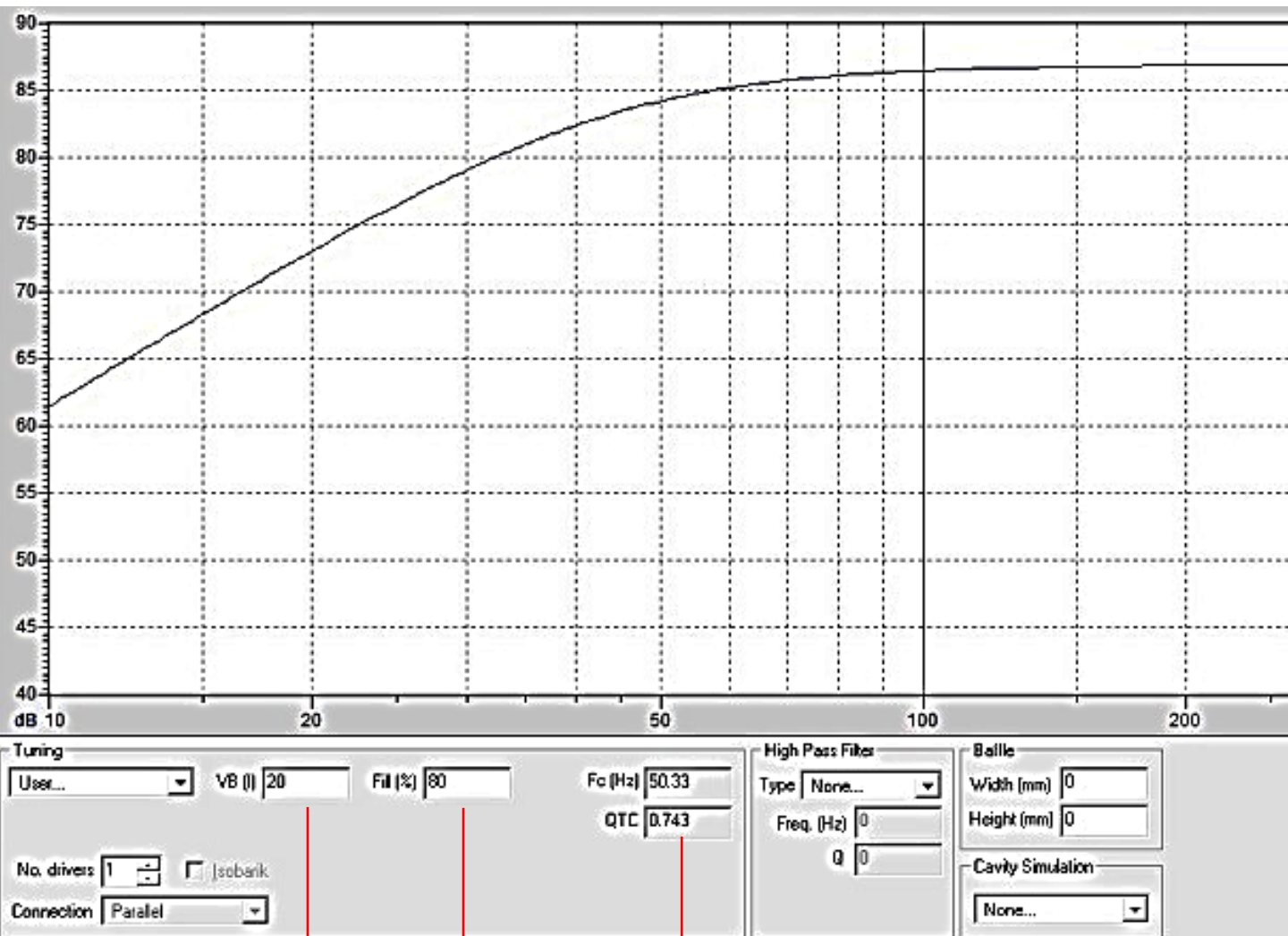
Power Handling

100h RMS noise test (IEC 17.1)	80 W
Long-term max power (IEC 17.3)	200 W

Voice Coil & Magnet Data

Voice coil diameter	51 mm
Voice coil height	33 mm
Voice coil layers	4
Height of gap	8 mm
Linear excursion	± 12.5 mm
Max mech. excursion	± 28 mm
Unit weight	6.2 kg

Simuleret respons for Scan Speak 26W/4558T00



Box nt. vol. liter

Fill %

Q-værdi

Box – closed
T/S parametre:
Resonans: 21 Hz
VAS: 94.9 liter
Qts: 0.31



Kabinettet



Materiale: 22 mm MDF. Indvendigt belagt med Bitumen.

Bas: Trykkammerkabinet: 20 liter, nt.

Coaxial: Trykkammerkabinet, aperiodisk tunet:10 liter, nt.

Fill: bas 50 gr. Dæmpeuld Organisk

Fill: coax 25 gr. Dæmpeuld (organisk)

Aperiodisk ventil

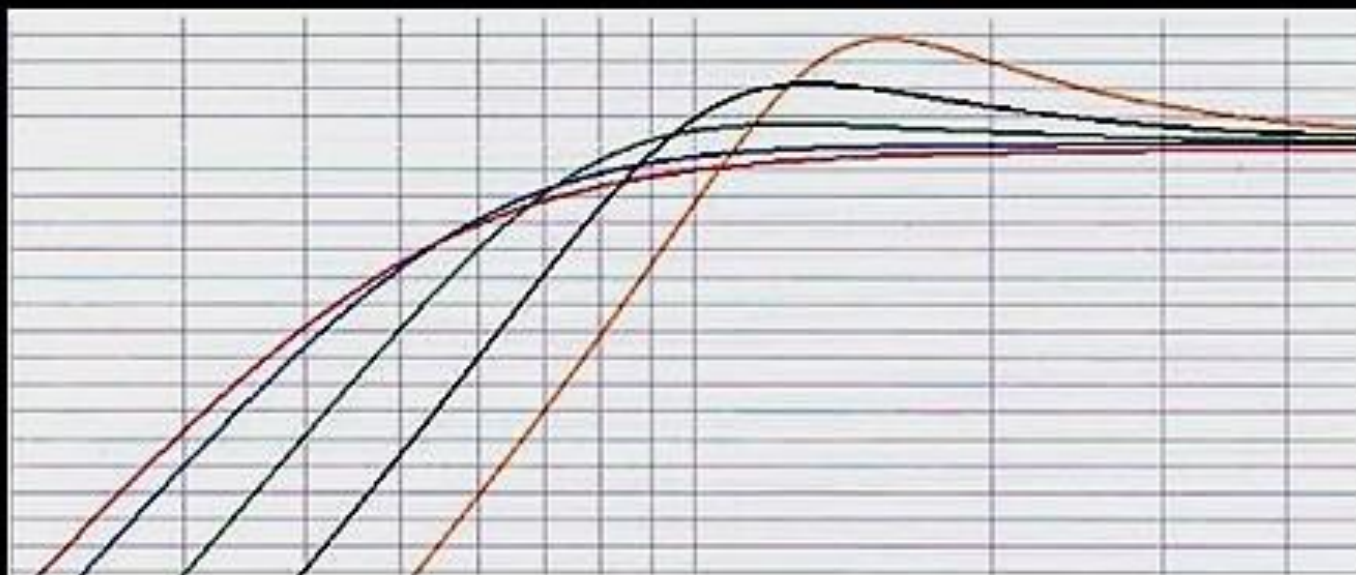
Anvendelse af aperiodisk ventil mindsker trykkammerkabinetets Q-værdi.

Q-værdien for coaxial-kabinettet på 10 liter uden ventil er 0,757, hvilket udgør et kompromis med præcisionen.

Q-værdien for coaxial-kabinettet med aperiodisk ventil bliver mindsket til ca. 0,6, hvilket forbedrer præcisionen og impulsgengivelsen.



Simulerede frekvenskurver for trykkammerkabinetets Q-værdier.



0,6 0,7 0,9 1,1 1,4

Kabinetets Q-værdier

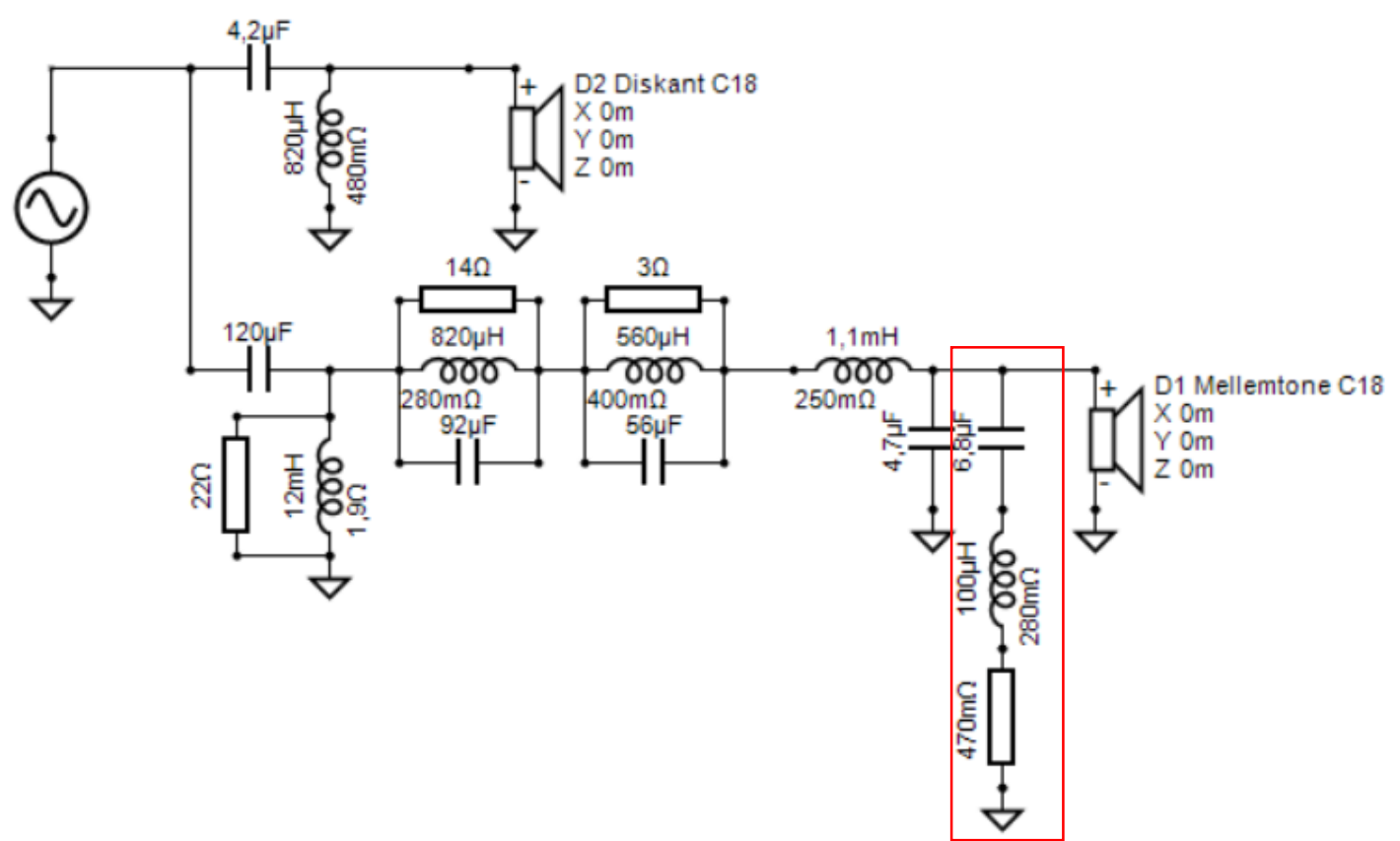
0,6 (rød kurve). Kraftig dæmpning, fin impulsgengivelse, fast men ikke særlig fyldig basgengivelse.

0,7 (blå kurve). Bedste kompromis mellem præcision og basfyldde.

0,9 (grøn kurve), 1,1 (sort kurve), 1,4 (orange kurve). Alle tre afstemninger giver en fyldig bas på bekostning af impulsgengivelse og præcision, også betegnet "snydebas".

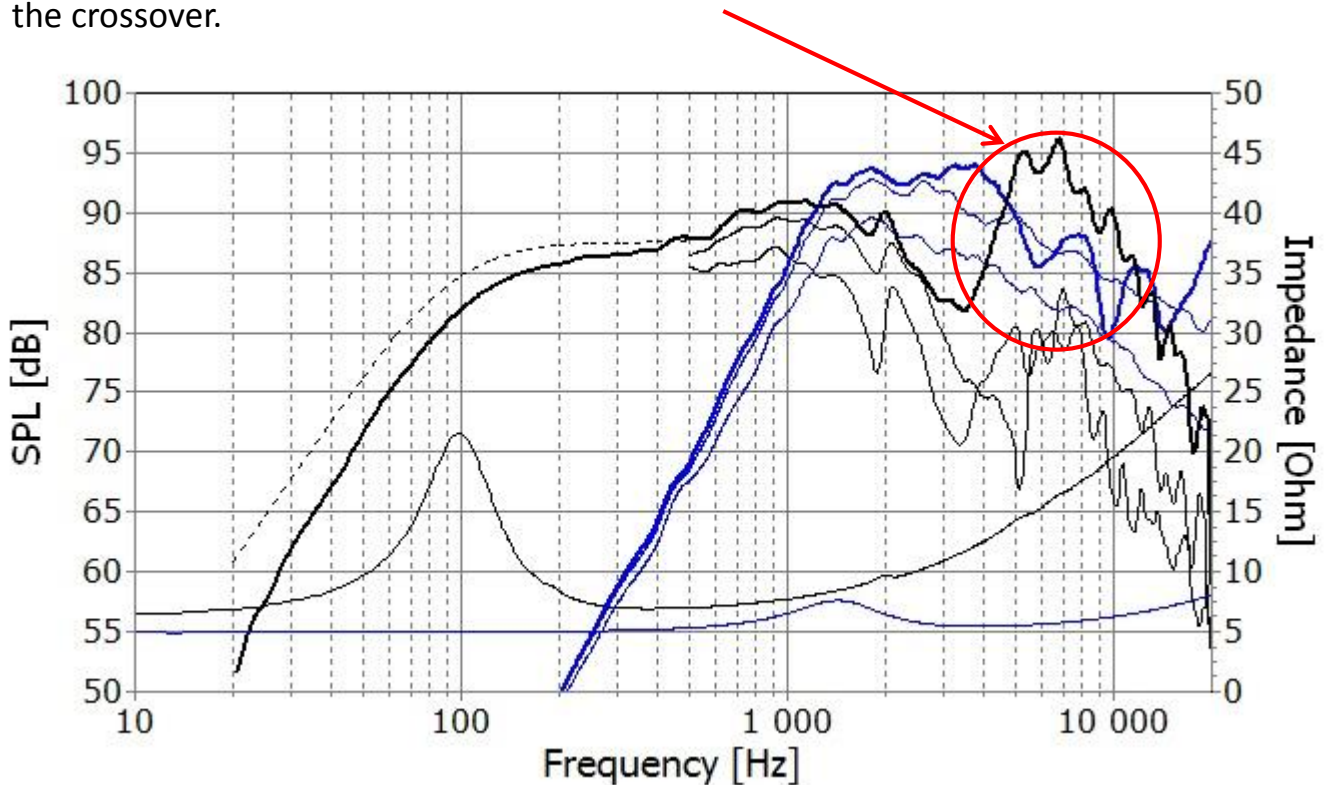
DELEFILTER

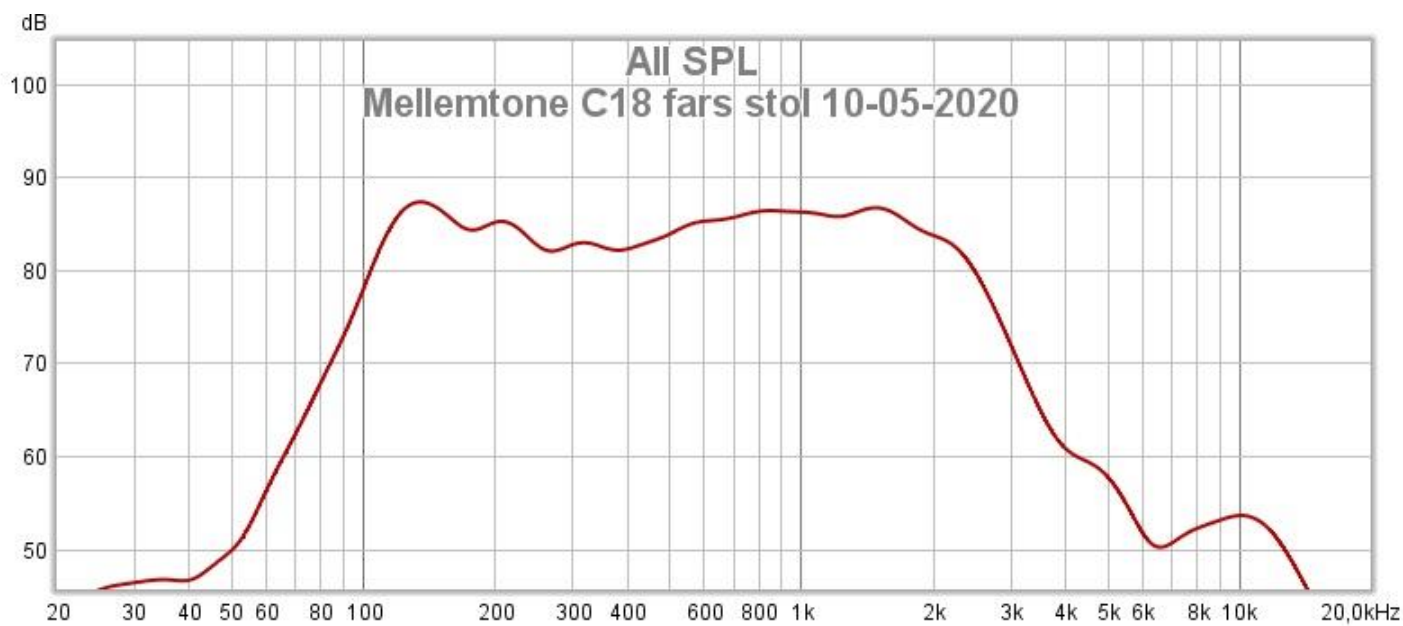
<u>Komponent</u>	<u>Værdi</u>	<u>Fabrikat</u>		
Højpass filter Diskant				
C1	4,2	Mikro farad	Jantzen Alumen Z-Cap	
L1	0,82	mH	Jantzen Jernkerne 1.0 mm	
Båndpass Filter mellemtone				
C2	120	Mikro farad	Jantzen Crosscap	
C3	4,7	Mikro farad	Jantzen Crosscap	
L2	12	mH	Jantzen Luftspole 1,4 mm / 1,9 Ohm	
R2	22	Ohm	Jantzen Superes 10W	
L3	1,1	mH	Jantzen Luftspole 1,6 mm / 0,25 Ohm	
Lnotch	0,1	mH	Jantzen Luftspole 0,7 mm / 0,28 Ohm	
Cnotch	6,8	Mikro farad	Jantzen Crosscap	
Rnotch	0,47	Ohm	Jantzen Superes 10W	
R550	14	Ohm	Jantzen Superes 10W	Amp. Notch filter 550 Hz
C550	92	Mikro farad	Jantzen Crosscap	
L550	0,82	mH	Jantzen Luftspole 1,4 mm / 0,28 Ohm	
R1000	3	Ohm	Jantzen Superes 10W	Amp. Notch filter 1000 Hz
C1000	56	Mikro farad	Jantzen Luftspole 1,0 mm	
L1000	0,55	mH	Jantzen Luftspole 1,4 mm / 0,4 Ohm	

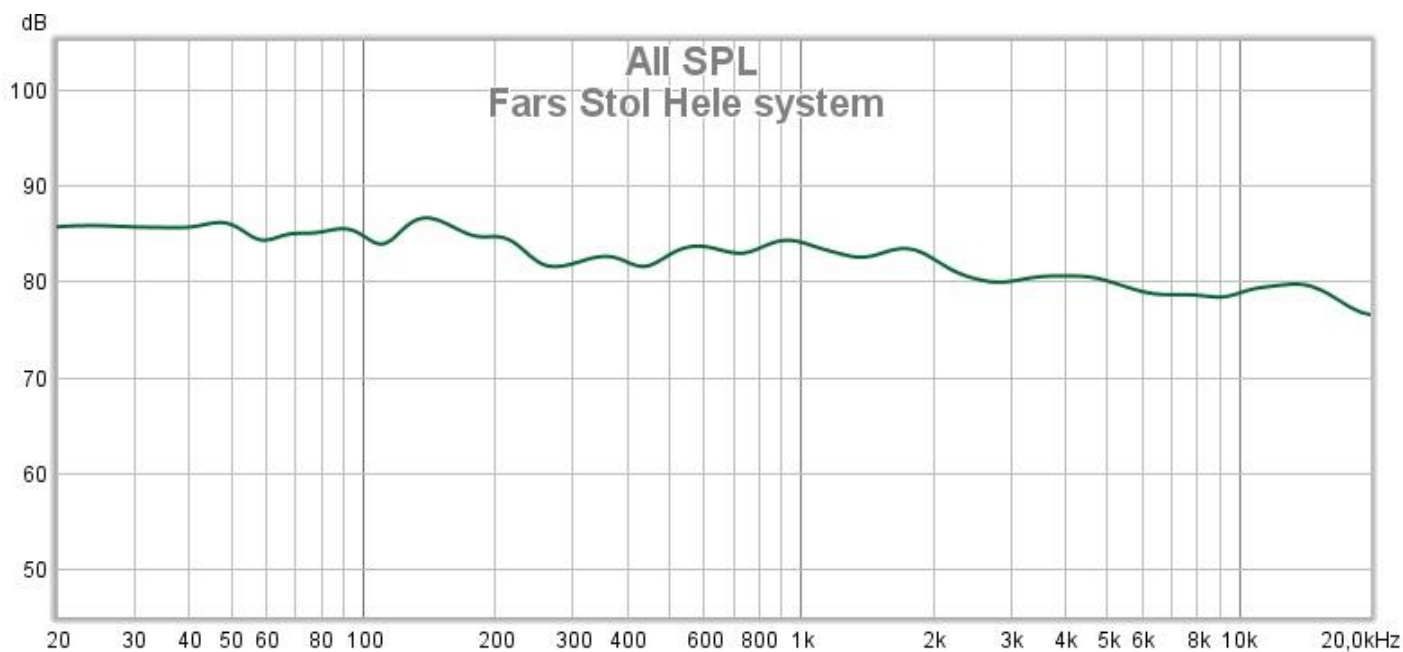
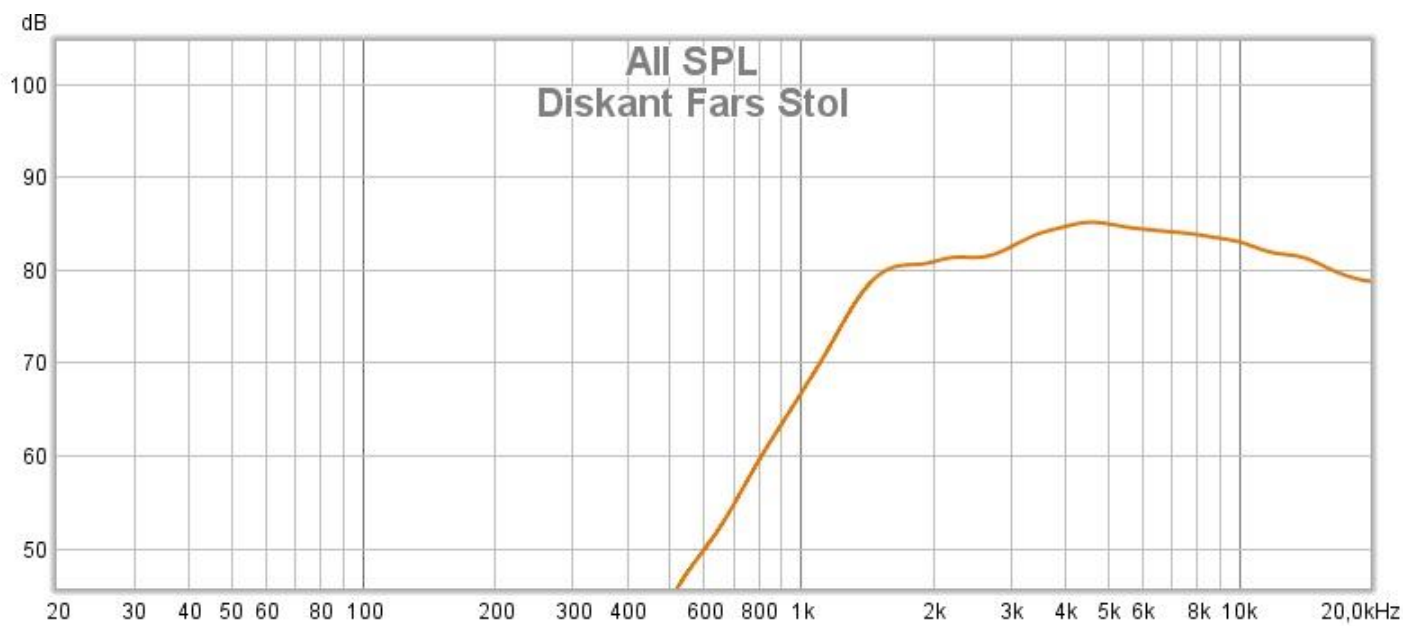


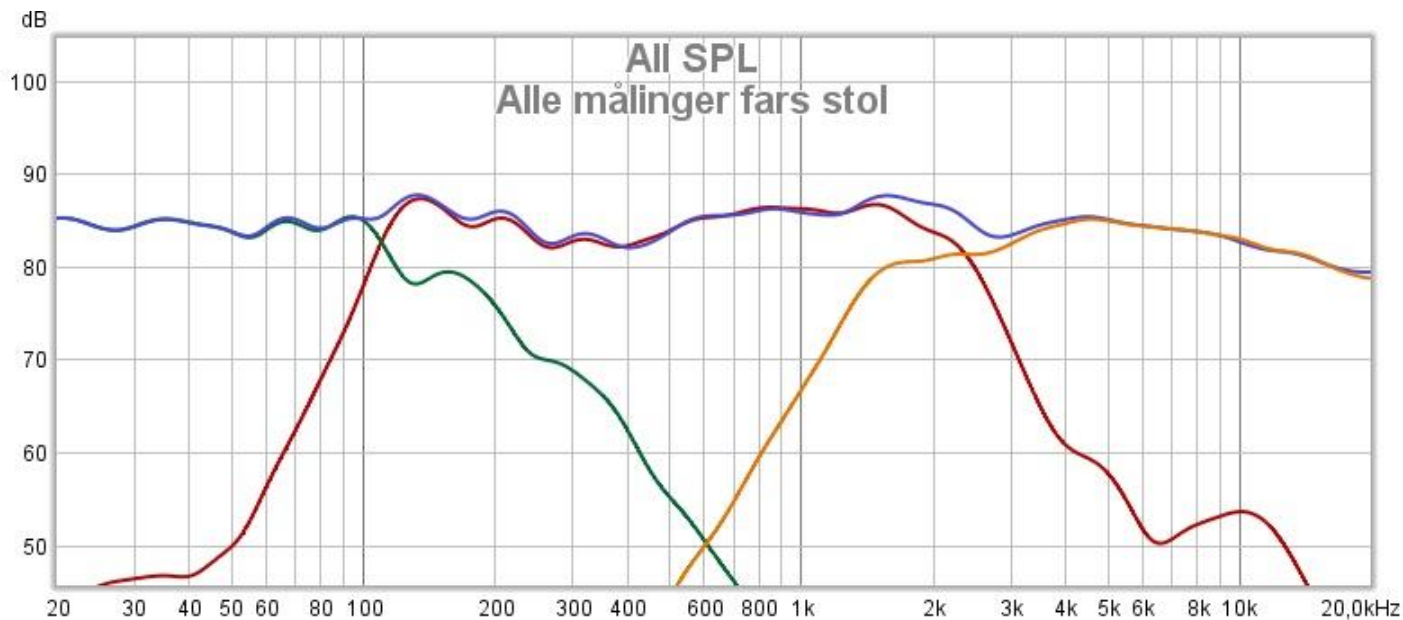
Seas magnesium cone

Making the cone extremely stiff so that break-ups occur away from the frequency range in which the cone is used. Break-ups are then filtered away with a notch filter in the crossover.

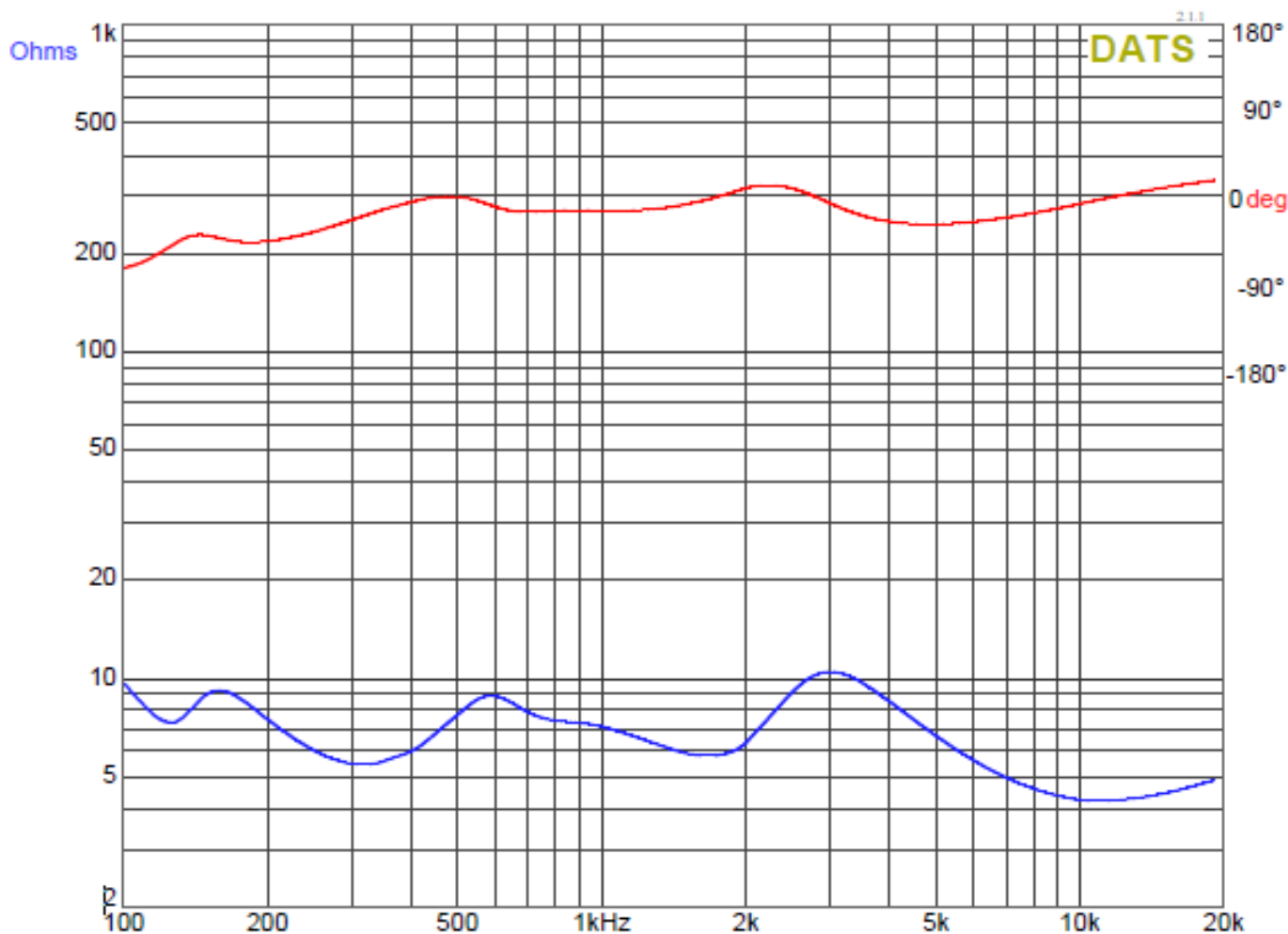








Fase og impedans



FORSTÆRKER

Til basmodulet

Hypex FA 251

Analog balanceret XLR ind
Analog ubalanceret RCA indgang
Høj niveau indgang
USB 2.0 konfigurations-interface
Power (4Ω): 1 x 250Wrms
Kanaler: 1 kanal / 1-vejs
DSP

Features

- 15 biquads per amplifier
- Three selectable presets for filters
- Source selection
- Signal detect
- Auto shutdown
- BTL capable
- Clip protect
- Thermal protect
- Filter protection



Remote

100 - 120V~ / 200 - 240V~
350W Max. / 50Hz - 60Hz

M800SE Mono Block Tube Power Amplifier



The most powerful tube power amplifier from Opera Audio. Uses the famous quad matched EL34 of ElectroHarmonix from Russia in each channel, connected in class AB parallel push-pull mode. Power output is switchable from 75W in ultra linear mode to 35W in triode mode. Fixed bias is used giving external individual adjustment for each EL34 for optimal operating point monitoring. Input stage uses a Sovtek 6922 and driver's stage uses two Shuguang 6N8P (6SN7) metal base per channel. Carefully selected coupling capacitors and military grade metal film resistors used throughout the circuit. Choke and capacitor filtering giving a smooth DC supply. A very small global NFB design to optimize the matching with medium to low sensitivity speakers. Overall an all rounder with superb flexibility and excellent sound to match with most speakers in the market.

SPECIFICATION:

CONTROL FUNCTIONS: Power On/Off
POWER OUTPUT: 60 / 35 watt x 2, RMS 1kHz (Ultra-linear / Triode)
TOTAL HARMONIC DISTORTION: less than 1%(50watt, 1kHz)
FREQUENCY RESPONSE: (-3dB points at 50 watt) 6Hz-60kHz
INPUT SENSITIVITY: 580mV
INPUT IMPEDANCE: 100k ohms
OUTPUT IMPEDANCE: 4, 8 ohms. (User selectable)
SIGNAL/NOISE: 90dB
CONSUMPTION: 90watt x 2
INPUT INTERFACES: 1 group (RCA)
OVERALL NEGATIVE FEEDBACK: Little
VACUUM TUBE: EL34 x 8, 6SN7/6N8Px 4, 6922 x 2
DIMENSIONS: 355(L) x 200(W) x 150(H) mm
WEIGHT: 20.5kg x 2