DYNAUDIO®

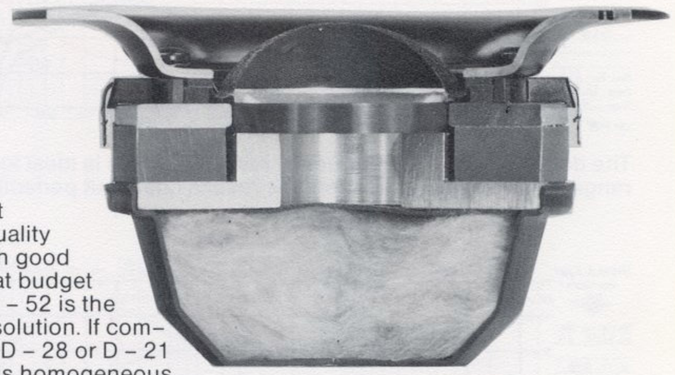
TECHNOLOGY UNLIMITED

D-52

APPLICATIONS

dome midrange
for hifi systems
500 Hz to 6000 Hz

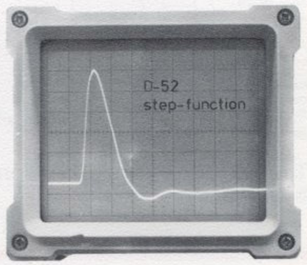
good combination
with D-28 and D-21
or both



If the target is a high quality system with good efficiency at budget price the D – 52 is the midrange solution. If combined with D – 28 or D – 21 the phase is homogeneous which results in very good resolution and good balance. Of course all the known DYNAUDIO characteristics as high power handling, wide dynamic range etc. are incorporated in the D-52.

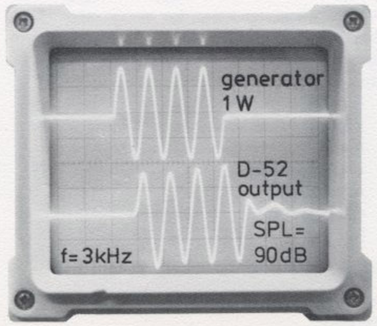
FEATURES

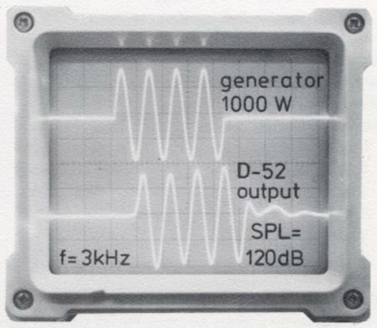
54 mm soft dome
vented magnet motor
aperiodically damped
soft-roll-off
flexible connection
wire
Hexacoil technique
Magnaflex damping/
cooling



Already in 1969 our engineers did use the STEP – FUNCTION as a measuring method.
Foreign drive units were used but the measuring results had been so disappointing that it was decided to start the development and production of speaker drivers. – The scope to the right shows that the work has lead close to the ideal.

Tone bursts are the best way to obtain an accurate picture of overall acoustic performance. Regrettably they are mostly used only to test rise-time and ringing - which shows much more clearly with a step funktion test! With a tone burst, all the moving parts of a speaker can be loaded without burning the voice coil. With a given frequency the SPL should be 30dB higher at 1000 W input when compared with a 1 W input, if the output is linear. This test shows the driver's ability to reproduce the transients without compression. The right picture shows that even a 1000 W input is not the limit: the dynamic response is absolutely linear. Data given in catalogues (and even test reports) normally are calculated figures and not measured values.





This compression effect is either under-rated or ignored very often. That is why many speakers do not produce SPL's above 100 dB, in spite of higher theoretical specifications. However this test exposes such anomalies between calculations and actual measurements.

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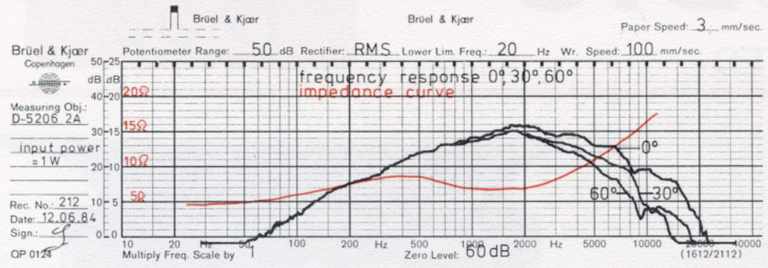
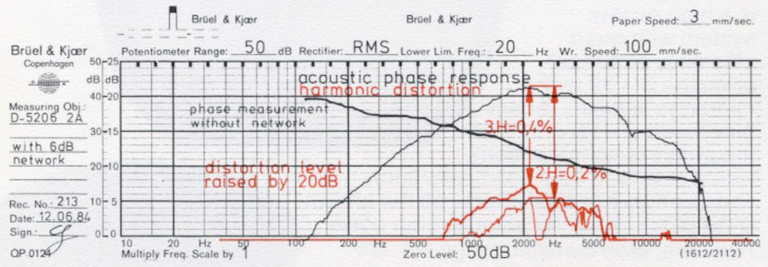
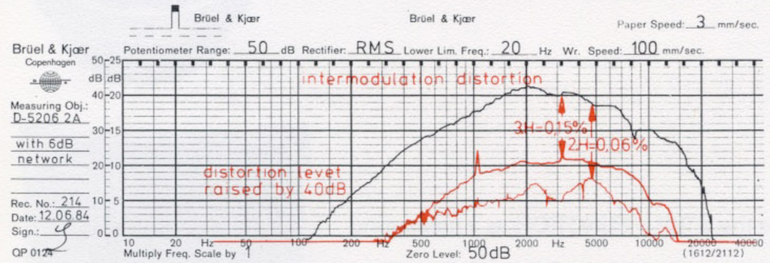


The dome shape of the frequency response curve is ideal for a midrange driver as with 6 dB filters the results come out perfectly.



The acoustically measured phase runs as a straight line from 100 to 20.000 Hz.



The I. D. curves are exceptional low and smooth. They had to be raised by 40 dB.

Compliance:				
suspension	C_{ms}	—		
acoustic	C_{as}	—		
equivalent volume	V_{as}	—		
Cone:				
eff. cone area	S_D	8,5	cm^2	
moving mass	M_{ms}	2,78	g	
lin. volume displacement	V_d	8,4	cm^3	
mech. resistance	R_{ms}	—		
lin. excursion P–P	X_{max}	3,0	mm	
max. excursion P–P		5,0	mm	
Frequency response:		500-6000	Hz	
Harmonic distortion:		< 0,4	%	
Intermodulation distortion:		< 0,15	%	
Magnetsystem:				
total gap flux		960	µWb	
flux density		1,15	Tesla	
gap energy		465	mWs	
force factor	B x L	6,4	Tm	
air gap volume	Vg	0,88	cm^3	
air gap height		5	mm	
air gap width		1,05	mm	
Net weight:		1200	g	

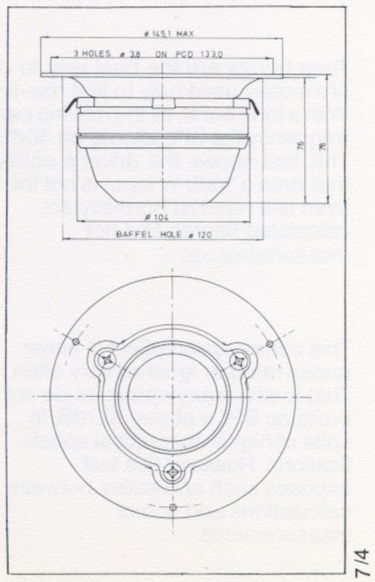
Overall dimensions:		146 x 104 mm	
Power handling:			
nominal	DIN	200	W
music	DIN	800	W
transient	10 ms	1000	W
Q-factor:			
mechanical	Q_{ms}	1,10	
electrical	Q_{es}	1,03	
total	Q_{ts}	0,53	
Resonance frequency free air:	f_s	350	Hz
Rise time		45	µs
Sensitivity:	1W/1m	92	dB
Voice coil:			
diameter	d	54	mm
length	h	7	mm
layers	n	2	
inductance (1 kHz)	L_e	0,07	mH
nom. impedance	Z_{vc}	8	Ω
min. impedance	Z_{min}	6,4	Ω
DC resistance	R_e	4,6	Ω

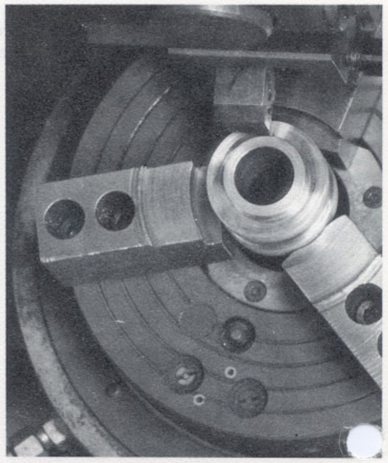
Data given are as after 30 hours of running

*Depends on cabinet construction

✻ Thiele/Small parameters are measured not statically but dynamically.

All specifications subject to change without notice





The iron parts of the Dynaudio magnet systems are not punched or caked but individually turned on CNC – machines. This is an important difference to bulk products. Because of the precision possible and the reliability our magnet systems are used i. e. as pumping motors in medical heart appliances.