DYNAUDIO®

TECHNOLOGY UNLIMITED

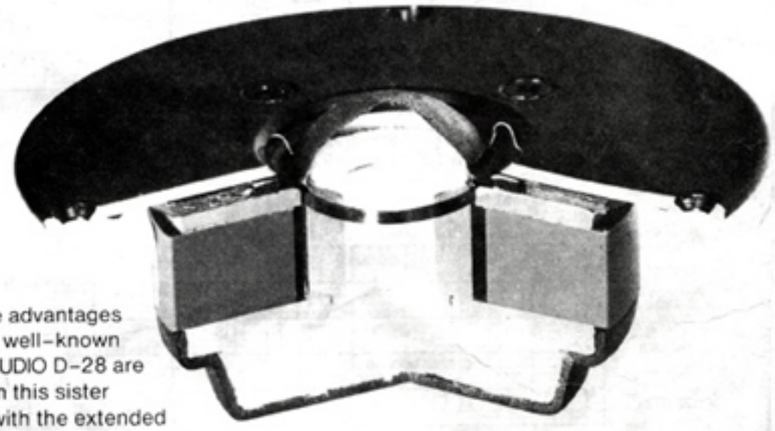
D-28 AF

APPLICATIONS

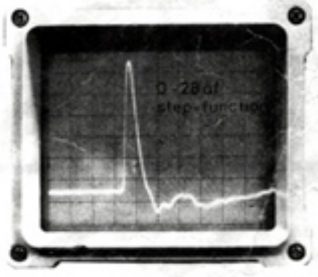
1 1/10 II (28 mm)
soft dome tweeter
ideal for 2-way
systems
also for 3-, 4- and
5-way-combinations
car fidelity.

FEATURES

soft roll off
suspension
aperiodic damped
double chamber con-
struction
hexacoil technique
very low distortions
high power handling
no phase shifts
magnaflex liquid
cooling
wide dynamic range
no compression of SPL.



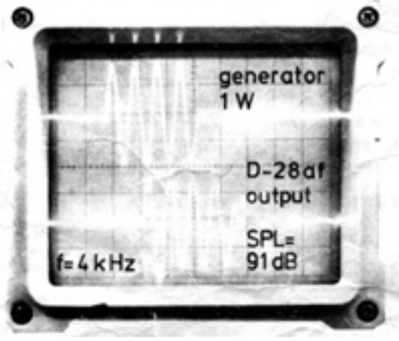
All the advantages of the well-known DYNAUDIO D-28 are built in this sister type with the extended dome even the aperiodic damped double chamber. The result is slightly less efficent, but the same good resolution, same wide dispersion and good imaging.
Years of research and practive have lead to the conviction that measurements and considerations should be made on dynamic and not static basis. This is the key to further development of the principles of the most successful system, the dynamic speaker.

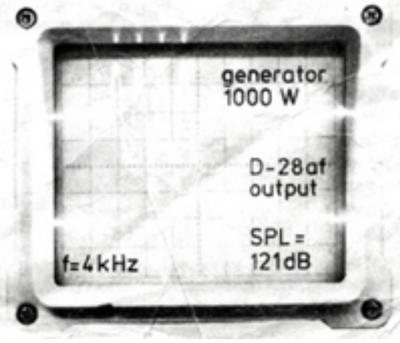


The STEP-FUNCTION of this tweeter shows the advantages of the extrem light weight of the moving system. The rise time is calculated here branding the D-28 AF to be one of the fastest tweeter of its size. Besides this no ringing or overshoot can be seen, thanks to the excellent damping by magnetic stregth, aperiodic construction and MAGNAFLEX magnetic fluid.

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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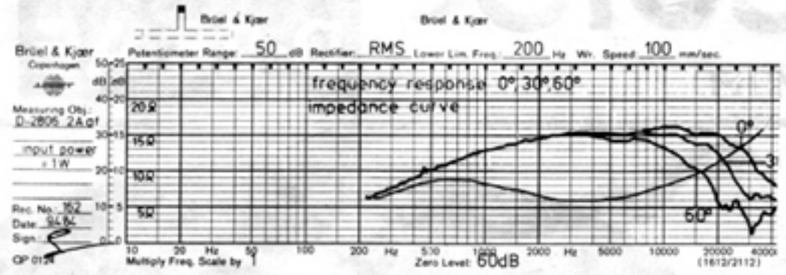
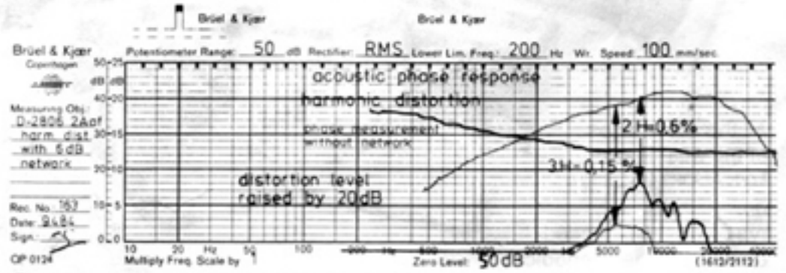
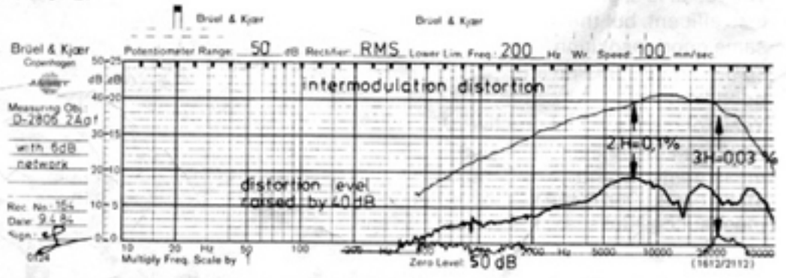


The impedance maximum at resonance does not exceed 8 Ohms! Balanced frequency response from 1,500 up to 22,000 Hz



Exceptional linear phase response up to 40 kHz. The h.d. is measured at 110 dB SPL!



The i. d. measurement is made at 90 dB SPL as well. Unusual low i. d. even at this high power lewel.

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}	0,51	g	
lin. volume displacement	V_d	6,0	cm^3	
mech. resistance	R_{ms}			
lin. excursion P-P	X_{max}	0,7	mm	
max. excursion P-P		3,2	mm	
*Frequency response:		1.000 - 30.000	Hz	
Harmonic distortion:		0,6	%	
Intermodulation distortion:		0,1	%	
Magnetsystem:				
total gap flux		340	µWb	
flux density		1,53	Tesla	
gap energy		156	mWs	
force factor	BxL	4,2	Tm	
air gap volume	V_g	0,16	cm^3	
air gap height		2,5	mm	
air gap width		0,75	mm	
Net weight:		0,55	kg	

Overall dimensions:	ø 110 x 46		mm
Power handling:			
*nominal	DIN	300	W
*music	DIN	1,200	W
transient	10 ms	1,000	W
Q-factor:			
mechanical	Q_{ms}	0,61	
electrical	Q_{es}	1,11	
total	Q_{ts}	0,39	
Resonance frequency free air:	f_s	700	Hz
Rise time		12	µs
Sensitivity:	1W/1m	91	dB
Voice coil:			
diameter	d	28	mm
length	h	3,2	mm
layers	n	2	
inductance (1 kHz)	L_e	0,09	mH
nom. impedance	Z_{vc}	8	Ω
min. impedance	Z_{min}	6,4	Ω
DC resistance	R_e	5,3	Ω

Data given are as after 30 hours of running

*Depends on cabinet construction

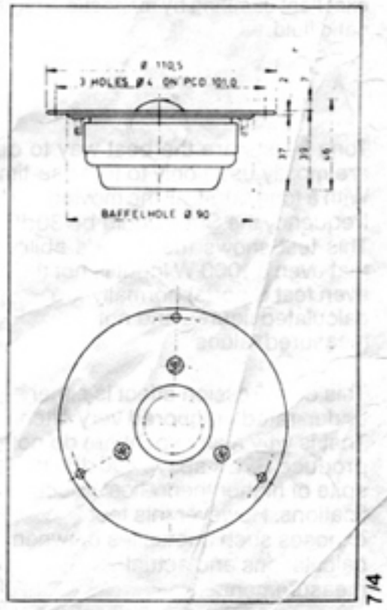
*Thiele/Small parameters are measured not statically but dynamically

All specifications subject to change without notice

	filter slopes		
measurement	18 dB/oct.	12 dB/oct.	6 dB/oct.
amplitude	linear	nonlinear	linear
phase	nonlinear	nonlinear	linear
impuls	very bad	bad	good

The more components a filter network has the more distortion of one or the other kind is produced. High quality components do less than average in this respect but they still do. 6 dB filters do need the lowest number of components and have ideal phase characteristic. Only if the speaker unit has a well damped resonance and soft roll-off in both ends 6 dB filters can be used.

ALL DYNAUDIO drive units have soft roll-offs in both ends and a well damped resonance. They are for use of 6 dB filters for lowest distortion and excellent results.



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