



D-28

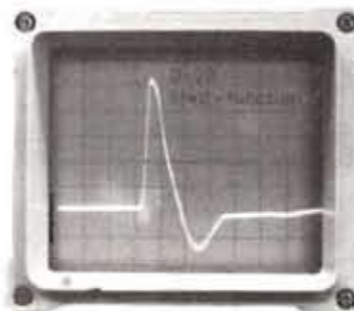
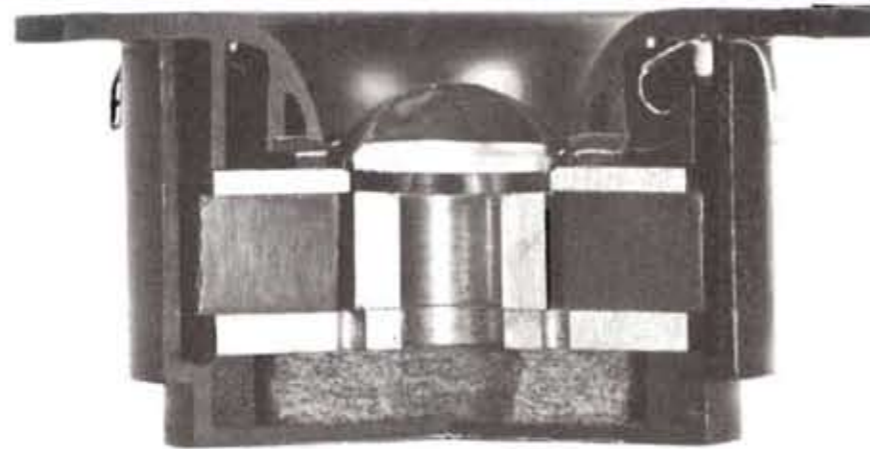
APPLICATIONS

1.1 inch (28 mm) soft dome tweeter for 2- and 3-way systems with supertweeter also in 4- and 5-way systems mobile hifi commercial and PA

FEATURES

soft roll-off suspension
vented magnet motor
aperiodically damped
Hexacoil technique
Magnaflex cooling / damping
flexible connector wires
high power handling
dynamic range more than 127 dB - no compression
very high efficiency
very low THD

The D-28 has the most advanced tweeter technology. Regularly improvements have secured this position for many years. Professional users value the enormous dynamic range of more than 127 dB SPL without compression which is important with today's high class high power electronic. The exceptional shape eases the time alignment and improves the efficiency without any horn characteristic.

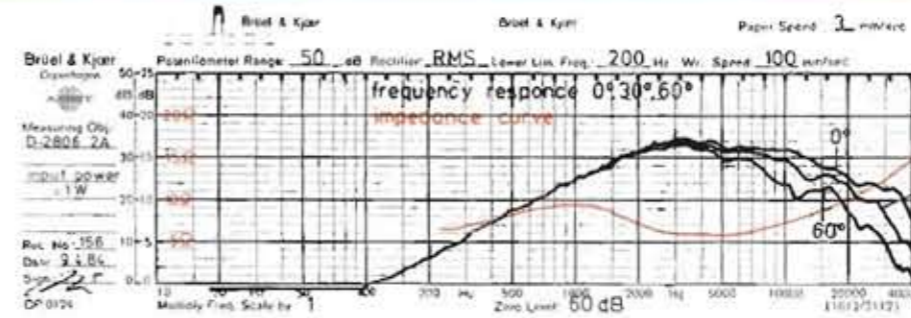
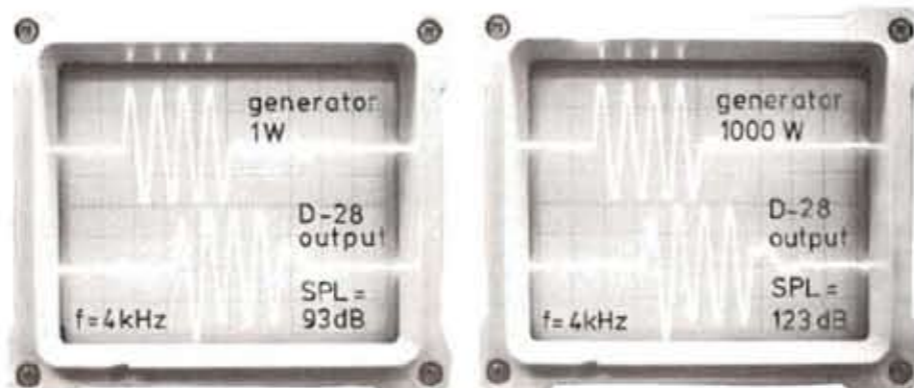


The rise time of a speaker is measured by means of a STEP-FUNCTION. The total is set to be 100 %, then 10 % and 90 % are marked. The first 10 % is the phase of acceleration, the last 10 % is the deceleration phase of the diaphragm. The 80 % between both marks are defined as the movement of the diaphragm. The time needed for this phase is called the rise time. The step function of the D-28 often is used as a scientific example because of its linearity.

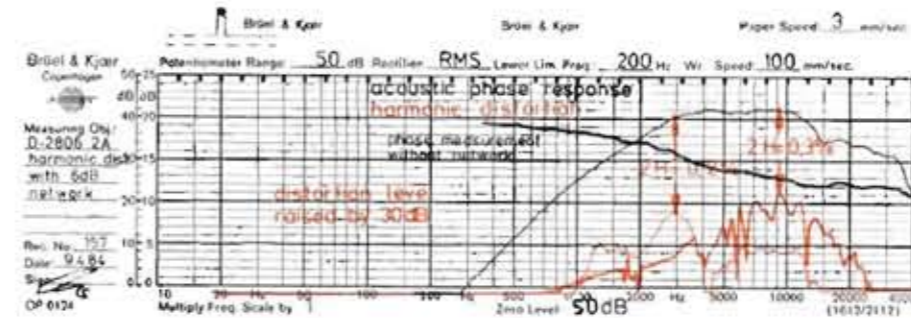
TONE BURSTS

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 function 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 30 dB 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.



The 30° and 60° off-axis curves prove clearly that the special house construction has no directional/horn effect at all.



The acoustic phase runs linear up to 50 kHz.



What other system has data like these?
Intermodulation distortion level had to be raised by 40 dB.



DYNAUDIO tweeter and midrange are always made of special soft cloth. This is important for the resolution and the precision of the response of the high end.

A certain bending pattern is unavoidable to the dome material while forcing it back and forwards. With soft material this effect is not audible. The harder the diaphragm material is (i.e. plastic, aluminium, titanium, beryllium etc.) the more this bending effect is heard and measured as the distortion potential.

Compliance:		Overall dimensions:	Ø 110 x 55 mm
suspension	Cms -	Power handling:	
acoustic	Cas -	* nominal	DIN 300 W
equivalent volume	Vas -	* music	DIN 1200 W
Cone:		* transient	10 ms 1000 W
eff. cone area	SD 8,5 cm ²	Q-factor:	
moving mass	Mms 0,51 g	mechanical	Qms 0,61
lin. vol. displacement	Vd 6,0 cm ³	electrical	Qes 1,11
mech. resistance	Rms -	total	Qts 0,39
lin. excursion P-P	Xmax 0,7 mm	Resonance frequency free air:	fs 700 Hz
max excursion P-P	3,2 mm	Sensitivity:	1 W / 1 m 93 dB
* Frequency response	1200 / 25000 Hz	Voice coil:	
Harmonic distortion:	0,3 %	diameter	d 28 mm
Intermodulation distortion:	< 0,035 %	length	h 3,2 mm
Magnetsystem:		layers	n 2
total gap flux	340 µ Wb	inductance (1 kHz)	Le 0,09 mH
flux density	1,52 Tesla	nom. impedance	Zvc 8 Ω
gap energy	156 mWs	min impedance	Zmin 6,4 Ω
force factor	B x L 4,2 Tm	DC resistance	Re 5,3 Ω
air gap volume	Vg 0,16 cm ³		
air gap height	2,5 mm		
air gap width	0,75 mm		
Net weight	0,6 kg		

* Thiele/Small parameters are measured not statically but dynamically

Data given are as after 30 hours of running

All specifications subject to change without notice

