

DYNAUDIO®

TECHNOLOGY UNLIMITED

30 W-100

APPLICATIONS

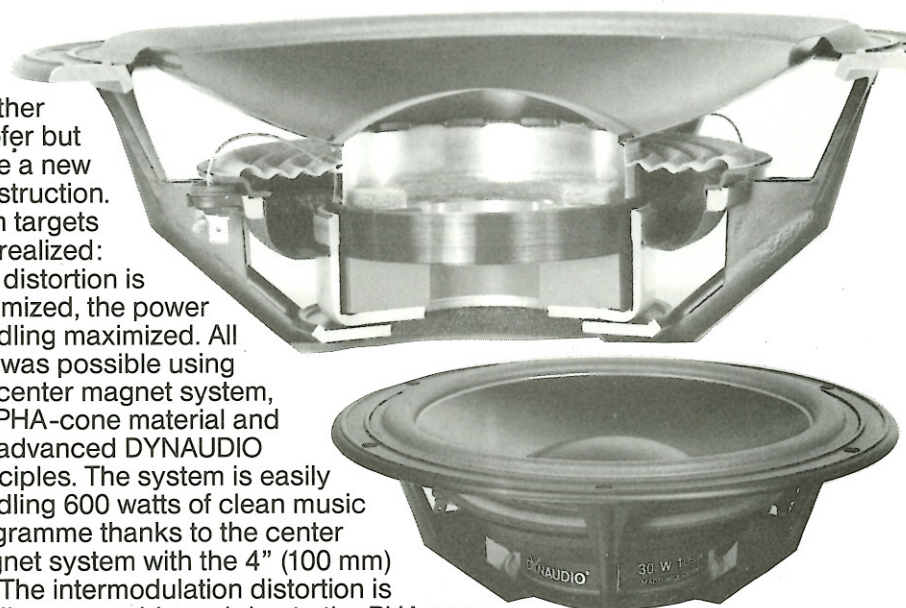
12" woofer for
3-, 4- and 5-way systems
subwoofer constructions
transmission line
bass reflex and
aperiodic damped systems

FEATURES

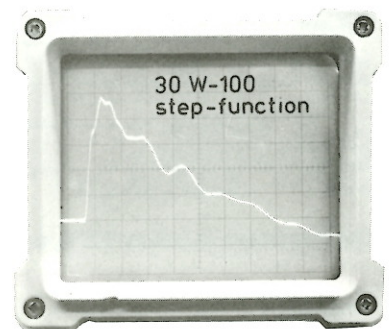
rigid magnesium die
cast basket with
aerodynamic ribs
vented long throw
magnet system
high BL-factor
lowest distortion figures
very low rise time
PHA cone material
haxaciol technique
tropic proof

Not just another woofer but quite a new construction. High targets are realized:

The distortion is minimized, the power handling maximized. All this was possible using the center magnet system, the PHA-cone material and the advanced DYNAUDIO principles. The system is easily handling 600 watts of clean music programme thanks to the center magnet system with the 4" (100 mm) VC. The intermodulation distortion is hardly measurable and due to the PHA cone not exceeding 0.8% even at the lowest end of the B&K-test equipment with 20 Hz. Normally good woofers show figures about 10-20%. The 30 W-100 is a challenge to the manufactures of big high end power amps.

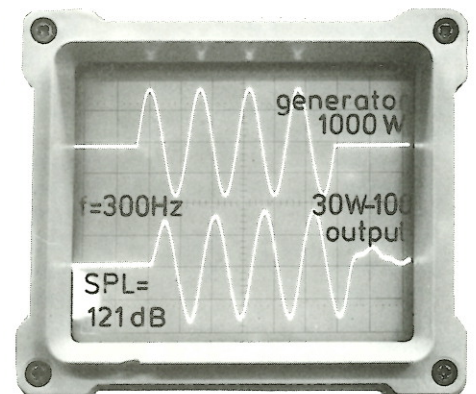
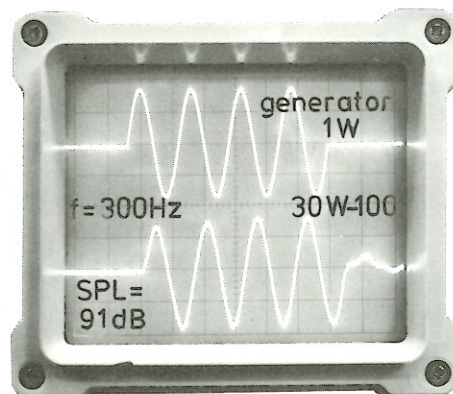


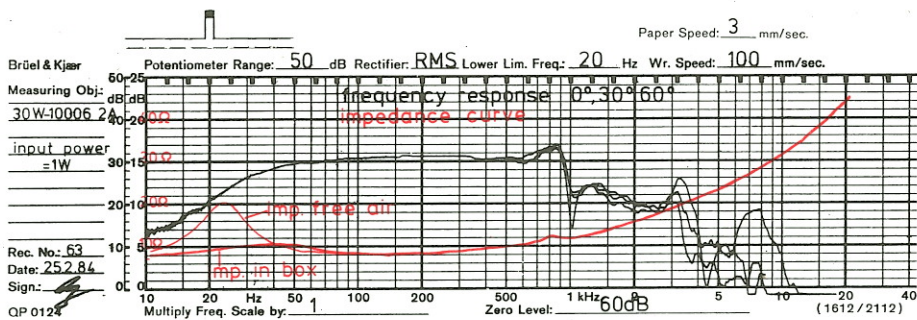
When using a STEP-FUNKTION judgement of the slope is most important. The ideal would be if the slope rolls off in an e-funktion. The size of area below the slope indicates the low end. Short jumps of the slope show misbehaviors of the speaker. Dome tweeters i.e. have the ideal slope but even slopes of very good cone speakers are a little weavy. These waves indicate coloration of response. The shown step of 30 W-100 has no wave of this kind.



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 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.

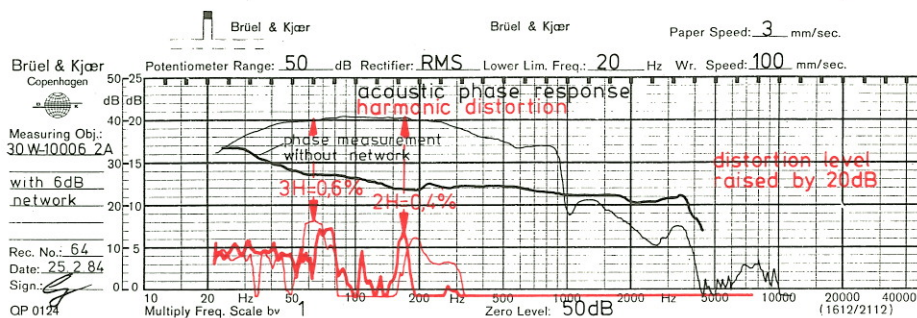




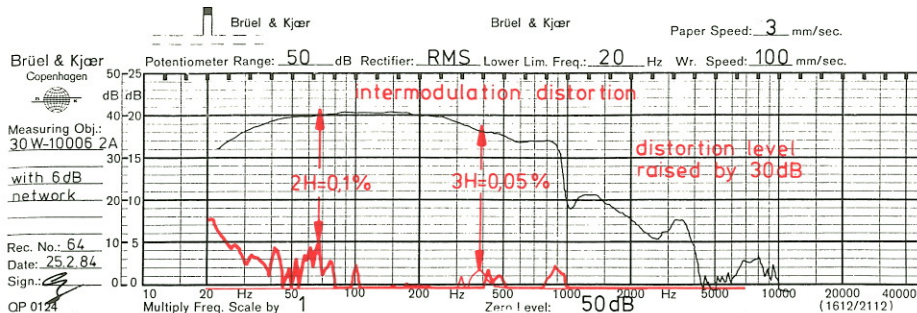
The radiation of sound is equal at all position (0°, 30°, 60°) and allows ideal employment up to 500Hz. Used in enclosure the impedance does not exceed 10 Ohms.



Today even complicated high technology products may be produced in large quantities. Some of these products have limited markets which in return limits the use of automatic tools. In these small series the precision, know how and skilled labour decide the quality of the ready product. About one third of the DYNAUDIO staff works together for more than 10 years.



DYNAUDIO products are famous for flat phase response. Extremely low distortion, below 0.8% totally



The maximum is below 0.5%, even at 20Hz. (!). Level is raised by 30 dB.

Compliance:		Overall dimensions:		300 x 104,5 mm
suspension	C _{ms}	1,21 · 10 ⁻³ m/N	Power handling:	
acoustic	C _{as}	1,94 · 10 ⁻⁶ m ⁵ /N	*nominal	DIN 450 W
equivalent volume	V _{as}	269 l	*music	DIN 600 W
Cone:			transient	10 ms 1000 W
eff. cone area	S _D	400 cm ²	Q-factor:	
moving mass	M _{ms}	35,2 g	mechanical	Q _{ms} 2,70
lin. volume displacement	V _d	320 cm ³	electrical	Q _{es} 0,803
mech. resistance	R _{ms}	1,98 kg/s	total	Q _{ts} 0,619
lin. excursion P-P	X _m	8 mm	Resonance frequency free air: f _s	24 Hz
max. excursion P-P		28 mm	Rise time	89 μs
*Frequency response:		22-900 Hz	Sensitivity:	1W/1m 91 dB
Harmonic distortion:		< 0,8 %	Voice coil:	
Intermodulation distortion:		< 0,6 %	diameter	d 100 mm
Magnetsystem:			length	h 16 mm
total gap flux		1300 μ Wb	layers	n 2
flux density		0,51 Tesla	inductance (1 kHz)	L _e 0,73 mH
gap energy		445 mWs	nom. impedance	Z _{vc} 8 Ω
force factor	B x L	6,26 Tm	min. impedance	Z _{min} 6,4 Ω
air gap volume	V _g	4,27 cm ³	DC resistance	R _e 5,85 Ω
air gap height		8 mm		
air gap width		1,68 mm		
Net weight:		2,1 kg		

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

