DYNAUDIO®

TECHNOLOGY UNLIMITED

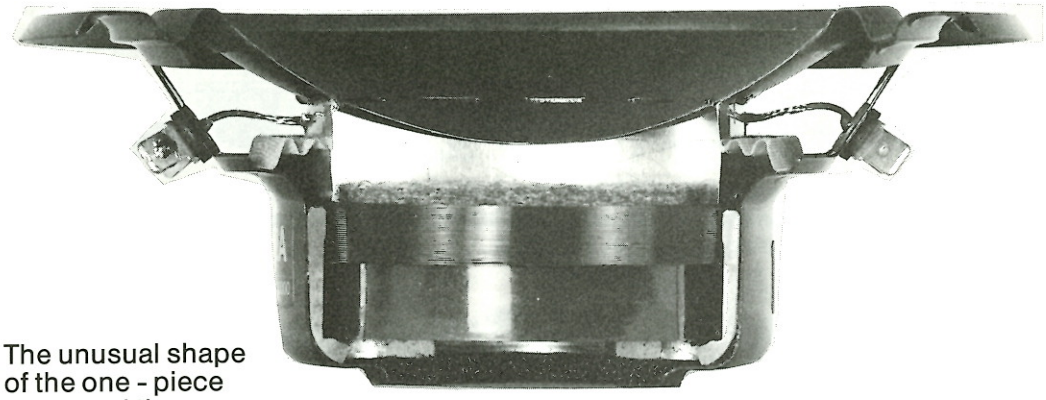
17 W-75

APPLICATIONS

Preferably for use in small 10 - 15 litre audiophile systems.
Enclosures may be sealed.
Aperiodically damped bass reflex or even transmission line types.
Slim - line sources may be realized by using rows of 17 W - 75.

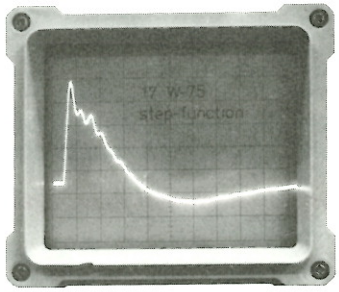
FEATURES

shallow design
high power handling
large voice coil diameter
wide dispersion pattern
low distortion
excellent phase characteristics
vented magnet system
tropic proof
center - magnet system



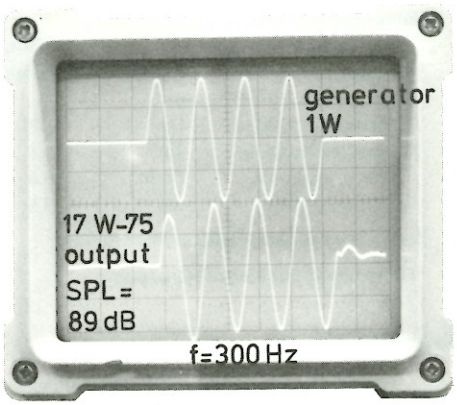
The unusual shape of the one - piece cone, and the huge (3" / 75 mm) voice coil in hexacoil technique give an ideal transfer of the acceleration force from the coil to the PHA (Phase Homogeneous Area) cone without break - ups because of the large contact area. Another advantage of the big voice coil is the short rise time (fast transient response) of 50 us. Very low distortion and excellent phase characteristics are a result of the total concave shape of cone.

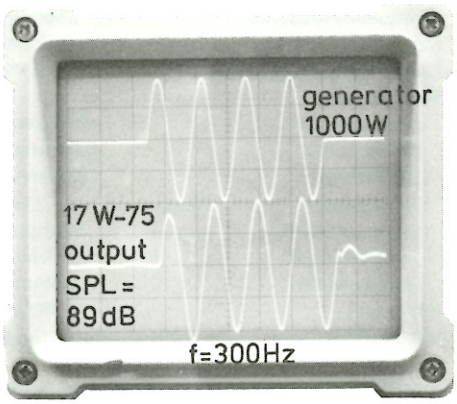
In preference to burst measurements, STEP - FUNCTION is the best method to show rise time and ringing of speakers. The overshoot at the roll - off gives clear and unambiguous information. Absence of overshoots in this picture show excellent transients and minimal ringing of the speaker. To obtain reliable results by means of burst measurements they should be taken at each and every frequency. Taking, for example, only 6 measurements to judge the unit is absolutely obsolete, but common practice. For this reason we have developed our Step - Function tests which are much more revealing of the true performance of the speakers.



TONE BURSTS are the best way to obtain 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 speaker can be loaded without burning the voice coil. With given frequency the SPL should be 30 dB higher at 1000 W input compared with a 1 W input, if output is linear. This test shows driver's ability to reproduce the transients without compression. Right picture shows that even 1000 W input is not the limit: the dynamic response is absolutely linear. Datas given in catalogues (and even test reports) normally are calculated figures and not measured values.

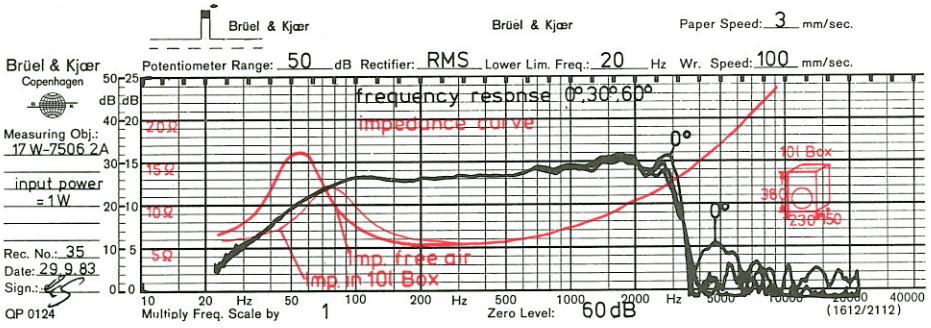
This compression effect is either under-rated or ignored very often. Many speakers do not produce SPL's above 100 dB, despite higher theoretical specifications. However this test exposes such anomalies between calculations and actual measurements.



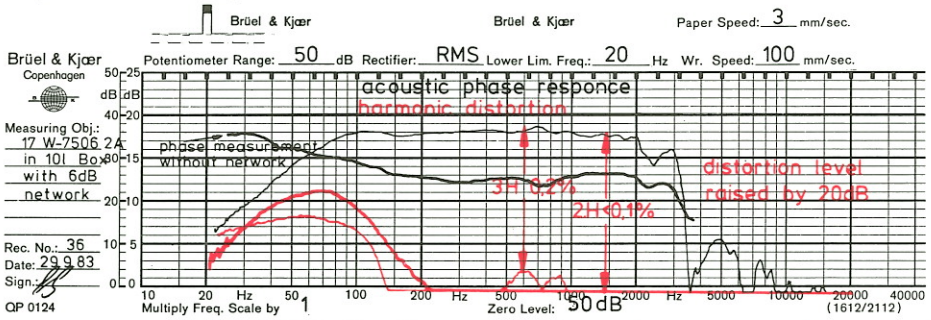


DYNAUDIO®

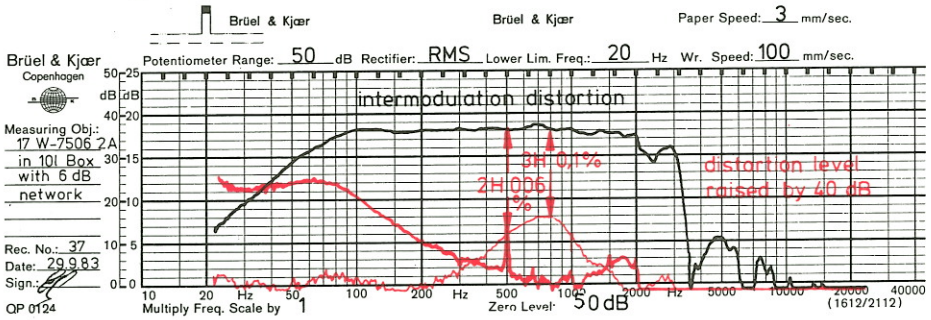
17 W-75



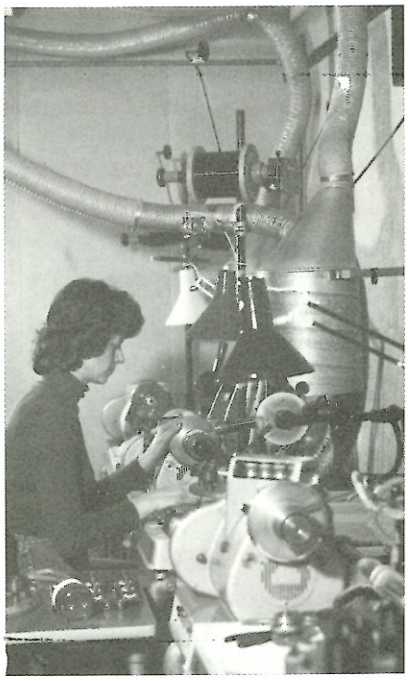
Frequency response flat to 2.5 kHz, then rolls off smoothly. Obvious is similarity of curves at 0°, 30° and 60°, offaxis, especially in area above 1 kHz: no directional ambiguity. Impedance flattening with 24 uF, 6.7 ohms.



Noticeably low harmonic distortion. The unusually linear phase response is measured acoustically, not calculated!



Even as low as 50 Hz the 2nd harmonic is below 0.5 %, an exceptional figure. To really enable us to show the distortion curves at all we had to raise them by 40 dB.



The voice coils are wound on high precision tools.
Then they undergo special heat-treating process, after which a cross-section of the coil shows the honeycomb configuration - the Hexacoil.
In this forming process the wire and the bobbin are formed into an intimate and solid unit, which results in a compact and homogeneous coil / bobbin unit.

Hexacoil gives the highest stability obtainable.

Compliance:		
suspension	Cms	0,936 · 10⁻³ m/N
acoustic	Cas	0,134 · 10⁻⁶ m⁵/N
equivalent volume	Vas	18,8 l
Cone:		
eff. cone area	SD	120 cm²
moving mass	Mms	15 g
lin. vol. displacement	Vd	66 cm³
mech. resistance	Rms	1,84 kg/s
lin. excursion P-P	Xmax	5,5 mm
max. excursion P-P		19 mm
* Frequency response:		42 - 3500 Hz
Harmonic distortion:		< 0,2%
Intermodulation distortion:		< 0,1%
Magnetsystem:		
total gap flux		670 µ Wb
flux density		0,56 Tesla
gap energy		204 mWs
force factor	B x L	4,3 Tm
air gap volume	Vg	1,65 cm³
air gap height		5 mm
air gap width		1,38 mm
Net weight:		800 g

Overall dimensions:		177 x 69 mm
Power handling:		
* nominal	DIN	150 W
* music	DIN	180 W
transient	10 ms	1000 W
Q-factor:		
mechanical	Qms	2,18
electrical	Qes	1,12
total	Qts	0,74
Resonance frequency free air:	fs	39 Hz
Sensitivity:	1 W / 1 m	89 dB
Voice coil:		
diameter	d	75 mm
length	h	10,5 mm
layers	n	2
inductance (1 kHz)	Le	0,45 mH
nom. impedance	Zvc	8 Ω
min. impedance	Zmin	6,4 Ω
DC resistance	Re	5,5 Ω

Data given are as after 30 hours of running

* Depends on cabinet construction

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