DYNAUDIO®

TECHNOLOGY UNLIMITED

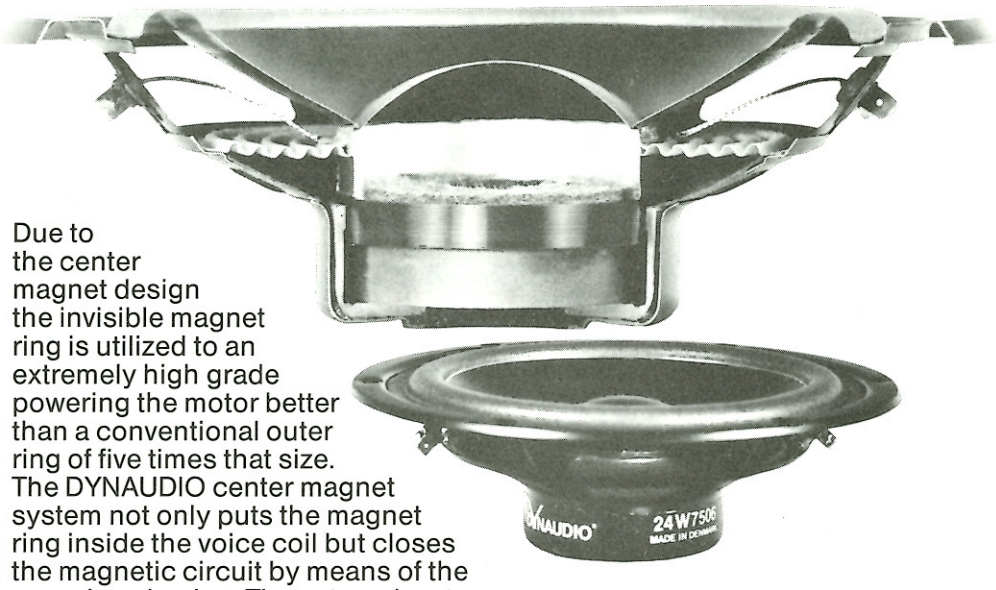
24 W-75

APPLICATIONS

9" (238 mm) woofer
for 20 to 60 liter cabinets
to be employed in sealed,
aperiodically damped,
transmission line or
bassreflex designs
together with D-28 will give
a very homogenous
2-way design
shallow design for mobile hifi
TV - monitors

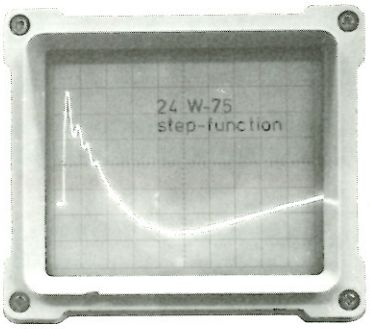
FEATURES

rigid all aluminium
Hexacoil technique
large v.c. diameter 3"
shallow construction
high power handling
very low distortion
wide dispersion pattern
phase linearity
vented magnet system
tropic proof
PHA-cone material
center-magnet system
very low magnetic flux leakage
soft roll off at both ends

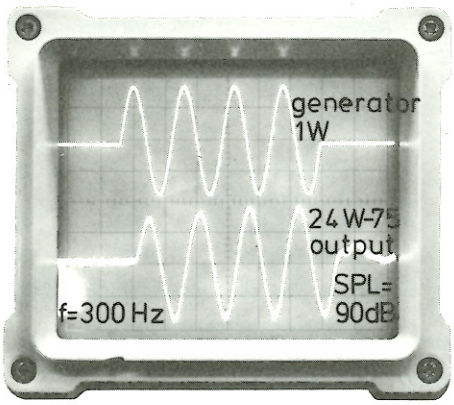


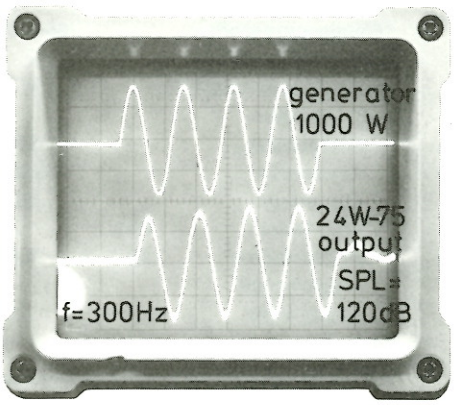
Due to the center magnet design the invisible magnet ring is utilized to an extremely high grade powering the motor better than a conventional outer ring of five times that size. The DYNAUDIO center magnet system not only puts the magnet ring inside the voice coil but closes the magnetic circuit by means of the one-piece basket. The extra advantage is a very low leakage of the magnetic flux thus enabling the 24 W-75 to get placed very close to TV-screens. Last not least this unit has datas allowing designs of finest high fidelity pretensions.

The venting of the magnet system is not just a hole in the middle of the magnet ring but a calculated opening including air brake, edge softenings and reflexion dampers. It is part of the details leading to a sophisticated product. The result is evident i.e. with the step function as shown to the right. A peak impulse has been applied to the voice coil, and released. The spurious response shown on the scope is of negligible size, non-audible and non-colouring.



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 is shown 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 picture to the right shows that even a 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.





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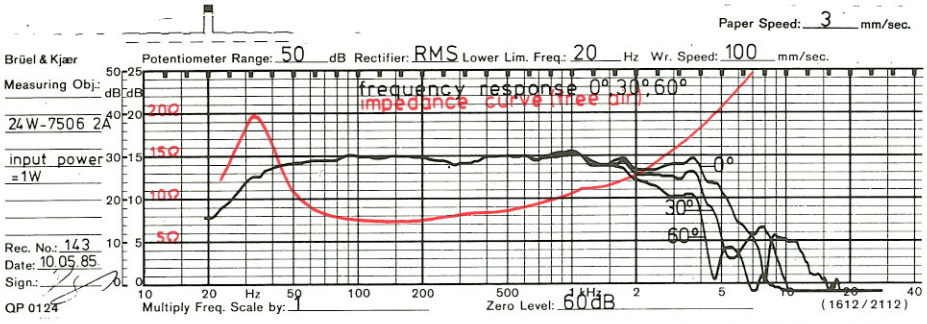
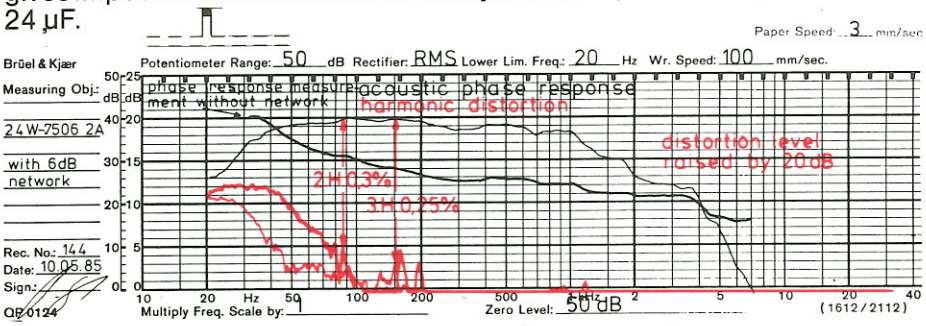
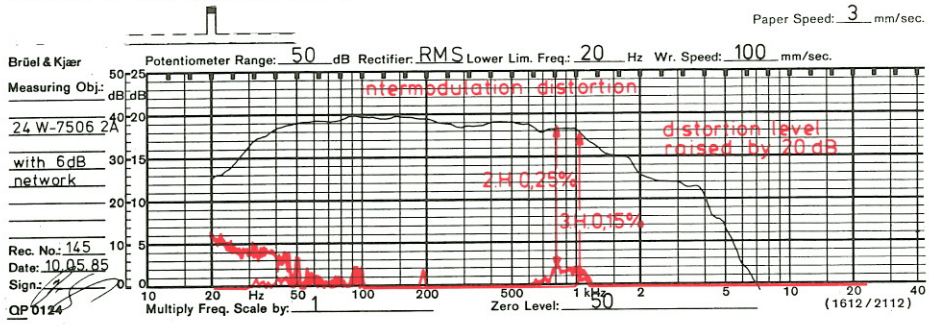


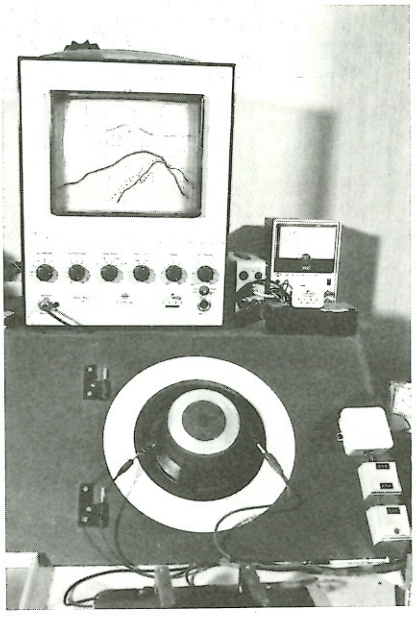
Curve is linear down to 40 Hz, only -3dB at 30 Hz. Smooth roll-off. Combined with D-28 the unit may be crossed at 2.5 KHz. Huge 3"/75mm voice coil gives impedance rise from 500 Hz easily to be compensated by 6.8 ohm and 24 µF.



The harmonic distortions are at a very low level. At 100 Hz they are below 0.3%. At 50 Hz they do not reach 1%! Linear acoustic phase gives easy-to-handle 2-way system designs.



Using a fixed frequency of 100 Hz crossing it with a measuring frequency, the intermodulation is shown here.



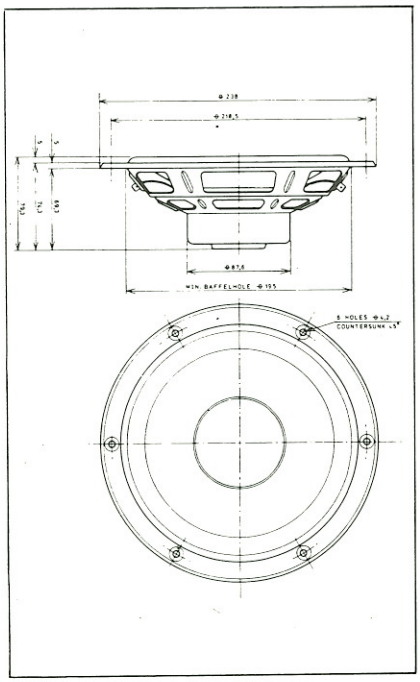
Despite most exacting production quality control there will always also remain human function. From voice coil to the complete driver the product will pass 8 to 12 quality control fields depending on type. Our demands for quality, for which DYNAUDIO is known, require exact observance of a low tolerance bandwidth. Tolerances of more than 0.0011 mm will cause rejection of the coil mandrel.

Compliance:		
suspension	Cms	$1{,}25 \cdot 10^{-3}$ m/N
acoustic	Cas	$0{,}63 \cdot 10^{-6}$ m^5/N
equivalent volume	Vas	88,2 l
Cone:		
eff. cone area	SD	220 cm^2
moving mass	Mms	18 g
lin. vol. displacement	Vd	121 cm^3
mech. resistance	Rms	1,12 kg/s
lin. excursion P-P	Xmax	5,5 mm
max. excursion P-P		23 mm
* Frequency response:		35 - 5000 Hz
Harmonic distortion:		< 0,3%
Intermodulation distortion:		< 0,25%
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 cm^3
air gap height		5 mm
air gap width		1,38 mm
Net weight:		920 g

Overall dimensions:		240 x 75 mm
Power handling:		
* nominal	DIN	120 W
* music	DIN	200 W
transient	10 ms	1000 W
Q-factor:		
mechanical	Qms	3,37
electrical	Qes	1,11
total	Qts	0,835
Resonance frequency free air:	fs	33 Hz
Sensitivity:	1W/1m	90 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.

All specifications subject to change without notice

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