

# DYNAUDIO®

TECHNOLOGY UNLIMITED

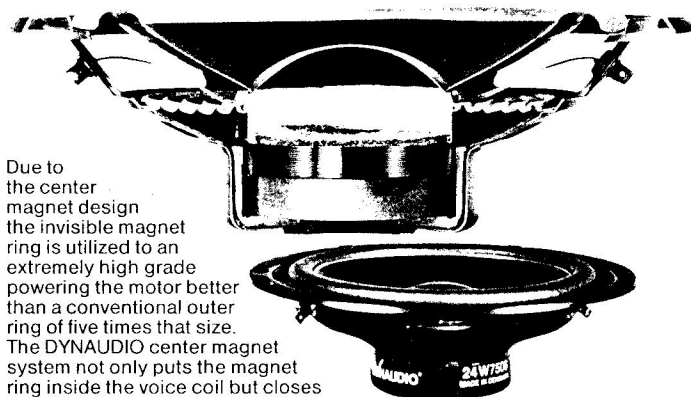
## 24 W-75

### 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

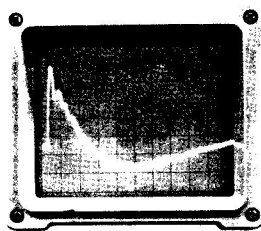
### FEATURES

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

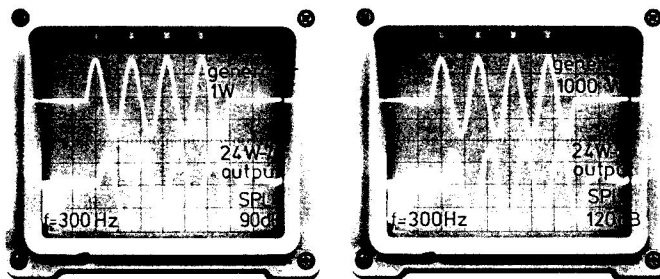


Due to the center magnet design the invisible magnet ring is utilized to an extremely high grade powering the motor better than a conventional outer ring of five times that size. The DYNAUDIO center magnet system not only puts the magnet ring inside the voice coil but closes the magnetic circuit by means 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.

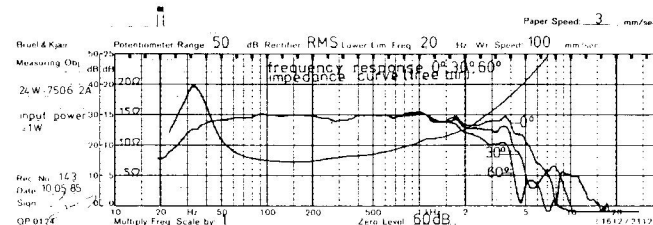


Tone bursts are the best way to obtain an accurate picture of overall acoustic performance. Regrettably they are mostly used only to test rise-time and ringing - which is shown much more clearly with a step function test! With a tone burst all the moving parts of a speaker can be loaded without burning 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

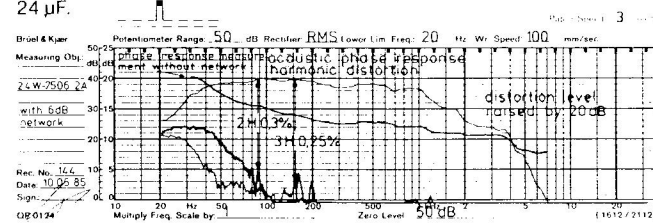


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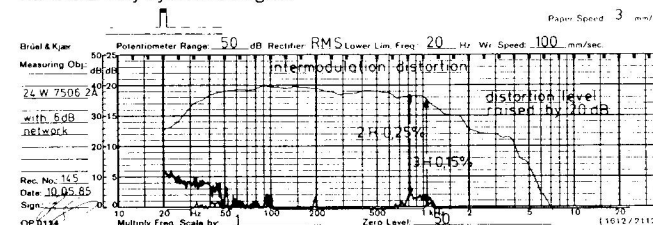
## 24 W-75



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"/75 mm voice coil gives impedance rise from 500 Hz easily to be compensated by 6.8 ohm and 24 µF.

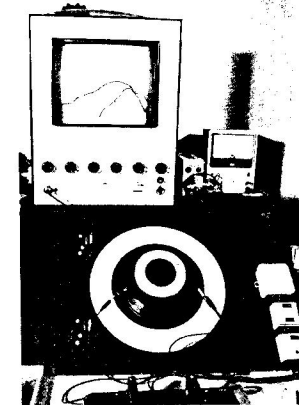


The harmonic distortions are at a very low level. At 100 Hz they are below 0.3%. At 50 Hz they do not reach 1%! Linear acoustic phase gives easy-to-handle 2-way system designs.



Compliance:		Overall dimensions:		240 x 75 mm
suspension	Cms 1,25 · 10 <sup>-3</sup> m/N	Power handling:		
acoustic	Cas 0,63 · 10 <sup>-6</sup> m <sup>5</sup> /N	* nominal	DIN	120 W
equivalent volume	Vas 88,21	* music	DIN	200 W
Cone:		transient	10 ms	1000 W
eff. cone area	SD 220 cm <sup>2</sup>	Q-factor:		
moving mass	Mms 18 g	mechanical	Qms	3,37
lin. vol. displacement	Vd 121 cm <sup>3</sup>	electrical	Qes	1,11
mech. resistance	Rms 1,12 kg/s	total	Qts	0,835
lin excursion P-P	Xmax 5,5 mm	Resonance frequency free air	f <sub>s</sub>	33 Hz
max excursion P-P	23 mm			
* Frequency response	35 - 5000 Hz	Sensitivity:	1 W / 1 m	90 dB
Harmonic distortion:	< 0,3%	Voice coil:		
Intermodulation distortion:	< 0,25%	diameter	d	75 mm
Magnetsystem:		length	h	10,5 mm
total gap flux	670 µWb	layers	n	2
flux density	0,56 Tesla	inductance (1kHz)	Le	0,45 mH
gap energy	204 mWs	nom. impedance	Zvc	8 Ω
force factor	B x L 4,3 Tm	min. impedance	Zmin	6,4 Ω
air gap volume	Vg 1,65 cm <sup>3</sup>	DC resistance	Re	5,5 Ω
air gap height	5 mm			
air gap width	1,38 mm	Data given are as after 30 hours of running		
Net weight	920 g	* Depends on cabinet construction		

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



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 observation of a low tolerance bandwidth. Tolerances of more than 0.0011 mm will cause rejection of the coil mandrel.

