

DYNAUDIO®

TECHNOLOGY UNLIMITED

D-52 AF

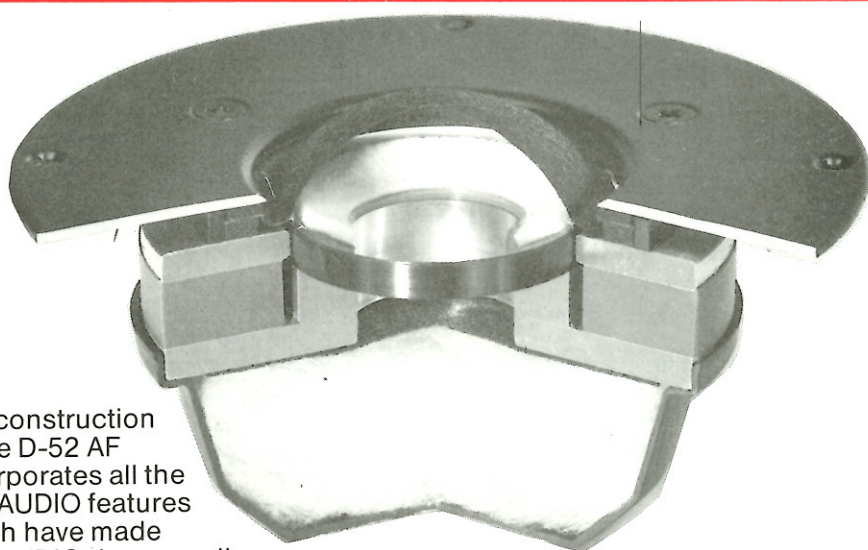
APPLICATIONS

2" (54 mm) midrange
soft dome
500 to 5000 Hz
HiFi Systems
PA and commercial use

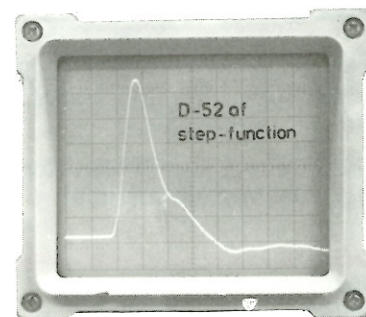
FEATURES

high power handling
wide dispersion
low THD
smooth frequency response
aperiodically damped
Hexacoil technique
Magnaflex damping/cooling
vented magnet motor

The construction of the D-52 AF incorporates all the DYNAUDIO features which have made DYNAUDIO domes well known worldwide. - The resonance is well damped below each critical point so the unit may be used even in this area without creating sharpness or any kind of phase problems. In respect to the price/feature relation the D-52 AF is quite inexpensive.

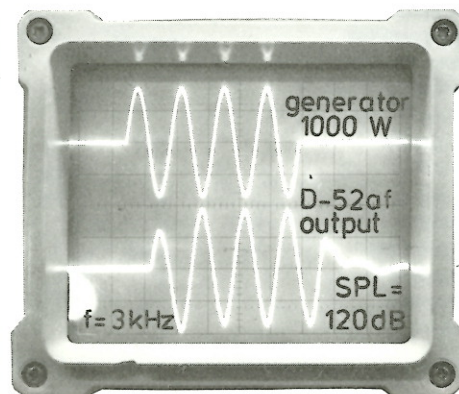
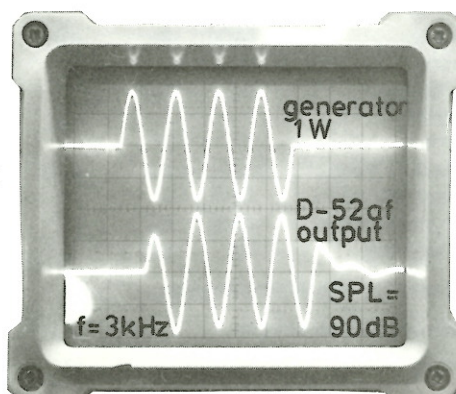


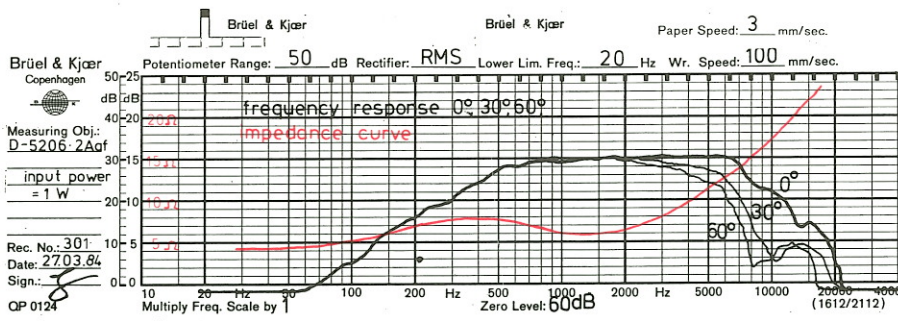
The STEP FUNCTION should be much more popular than it is today as it is one of the most important tools for development of high quality speakers. The rise of the D-52 AF shown on the screen to the right is clean, also in acceleration and deceleration phase. The aperiodic damping of the unit results in a slope without any peak or bump or afterswinging.



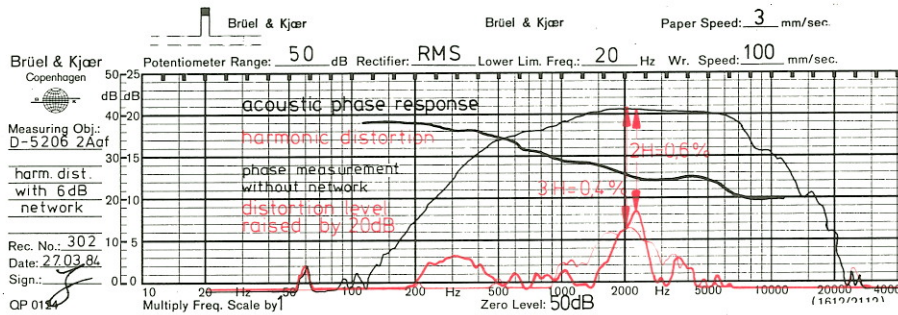
Tone bursts are the best way to obtain an accurate picture of overall acoustic performance. Regrettably they are mostly used only to test rise-time and ringing - which shows much more clearly with a step function test! With a tone burst, all the moving parts of a speaker can be loaded without burning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

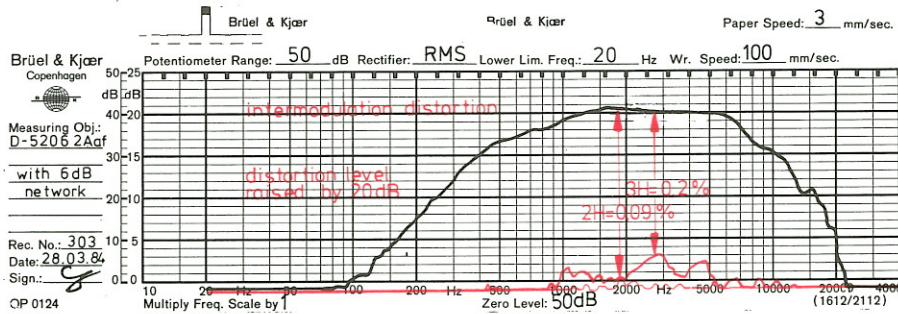




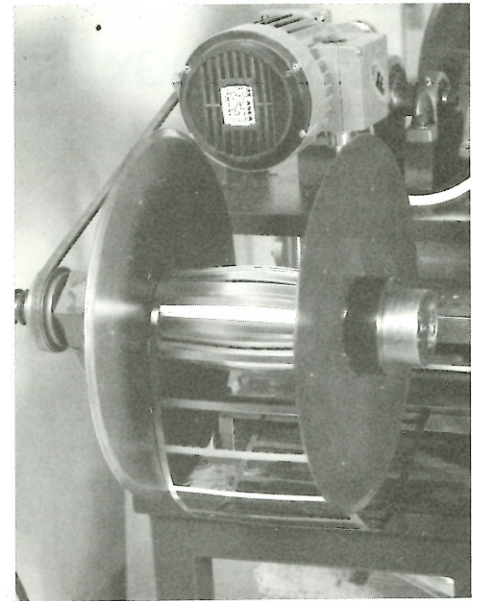
The curve indicates wide dispersion and smooth dropping at both ends which is the correct behaviour of a midrange.



Breakup of diaphragm not measurable:
The acoustical phase is as straight as aruler.



These figures and dates prove that the soft dome is today's ultimate material.



Normal suppliers often are unable to fill our quality demands, so we were forced to build our own machinery for production of various important key parts. As we are making all the voice coils in the hexacoil technique we have to make even the aluminium former at our factory. This is a must to secure the high quality standard.

| | | | | | | | |
|-----------------------------|------------------|---------------------|-----------------|----------------------------------------------|------------------|--------|-------|
| Compliance: | | Overall dimensions: | | Ø 145 x 78 | | mm | |
| suspension | C _{ms} | Power handling: | | DIN | 200 | W | |
| acoustic | C _{as} | *nominal | | DIN | 800 | W | |
| equivalent volume | V _{as} | *music | | | 10 ms | 1000 W | |
| Cone: | | Q-factor: | | | | | |
| eff. cone area | S _D | 28 | cm ² | mechanical | Q _{ms} | 1,10 | |
| moving mass | M _{ms} | 2,78 | g | electrical | Q _{es} | 1,03 | |
| lin. volume displacement | V _d | 8,4 | cm ³ | total | Q _{ts} | 0,53 | |
| mech. resistance | R _{ms} | 3,0 | mm | Resonance frequency free air: f _s | | 350 | Hz |
| lin. excursion P-P | X _{max} | 5,0 | mm | Sensitivity: | | IW/lm | 91 dB |
| max. excursion P-P | | | | Voice coil: | | | |
| *Frequency response: | 400-8000 | | Hz | diameter | d | 54 | mm |
| Harmonic distortion: | < 0,4 | | % | length | h | 7 | mm |
| Intermodulation distortion: | < 0,2 | | % | layers | n | 2 | |
| Magnetsystem: | | | | inductance (1 kHz) | L _e | 0,07 | mH |
| total gap flux | 960 | | uWb | nom. impedance | Z _{cv} | 8 | Ω |
| flux density | 1,15 | | Tesla | min. impedance | Z _{min} | 6,4 | Ω |
| gap energy | 465 | | mWs | DC resistance | R _e | 4,6 | Ω |
| force factor | BxL | 6,4 | Tm | Data given are as after 30 hours of running | | | |
| air-gap volume | V _g | 0,88 | cm ³ | *Depends on cabinet construction | | | |
| air gap height | 5 | | mm | | | | |
| air gap width | 1,05 | | mm | | | | |
| Net weight: | 1,2 | | kg | | | | |

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

