APPLICATIONS

woofer in 2-, 3- and 4-way systems, slim tower, versatile utility, closed box, variable box, bass reflex, transmission line, in larger systems as upper bass or low mid

FEATURES

Unusual large 4” (100 mm) vented center magnet motor hexcell technique PHA cone material high power handling wide dynamic range smooth phase response low magnet flux leakage no dynamic compression stable acoustic center

The unique construction renders impressive performance. Not only the phase linearity but also the wide dynamic range allows an unusual precise bass reproduction. The frequency curve runs flat and drops smooth at both ends, the off-axis curves show the excellent dispersion. The crossovers and well-dissolved midrange grants splendid 2-way design.

The center magnet system not only exploits the magnetic airgap about double as good as conventional systems but also allows construction of very low leakage of the magnetic flux. Already a 5 mm 0.6° off the flange there is no magnetic stray field against a conventional system which shows this figure only at a distance of about 150 mm 0°. This allows employment of the 24 W-100 in monitoring systems placed near to video TV screens without extra shielding.

A few people only know about dynamic compression in loudspeakers, and most manufacturers pass over this silence about it. When program power is fed into a speaker, part of this power will be converted into heat in the voice coil. At high power levels this temperature is likely to reach approx. 250 degrees Celsius (500 degrees Fahrenheit). Under this condition the impedance figure will double up, which in return can result in a compression of output of about 5 dB (f). Without any doubt one can imagine that the result is an audible imbalance as not all drive units of the complete system will reach the same temperature level and the same level of compression.

What to do? First of all you have to choose the voice coil diameter as big as possible, still lightweight of course (i.e., aluminum wire). Secondly the air gap width has to show a low figure in order to dissipate the heat via the iron and magnet material. Last not least the entire construction should guide to come off with temperature rise.

The BURSTS: input and output are analogous

The STEP-FUNCTION: a typical DYNAUDIO result

Frequency response straight up to 3 kHz allowing excellent 2-way combinations, i.e., with D 028 (AP). From 3 kHz the frequency drops with 20 dB, ideal for 6 dB filter.

HD measured in 50 liter enclosure. Exceptional is the low distortion even at 20 Hz.

An extra advantage of big voice coils is that the forcing power is transferred to the cone via the middle of the radius. Small voice coils have an unbalanced force transfer provoking breakdowns and distortions. The costs of manufacturing a big and precise DYNAUDIO hexcell are considerably higher than for an entire ordinary drive unit.