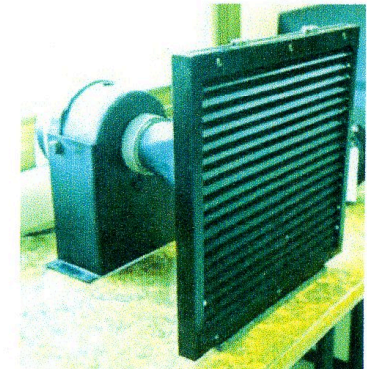


N°8 : Klangfilm square horn and acoustic lens + field coil Klangfilm driver

Smooth frequency response curve with a little negative slope above 1200Hz. Extended frequency response from 350Hz to 10kHz. Low distortion. Rise of all distortion components below 400Hz (Fs of the driver around 250Hz).

The group delay curve rises above 10centimeters (= 0.3ms) below 1000Hz. Better to use that horn/driver couple between 1000Hz and 10kHz .

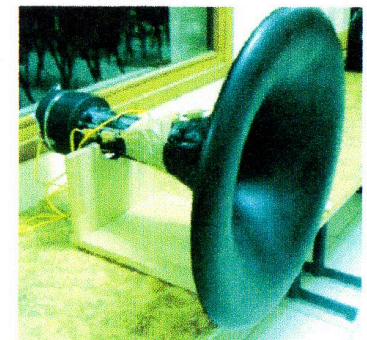


N°9 : Musique Concrète J321 Le Cleac'h horn + TAD TD2001 driver

Very low distortion. No H4 and H5 visible in the conditions of the measurement.

Extended response from 300Hz to 20kHz with a small negative slope above 8kHz.

Very flat and smooth frequency response curve. The classic hole of the TD2001 response around 1900Hz is annulled by the use of a 30ohm serial resistor. The group delay curve is very smooth and rises over 10centimeters (= 0.3ms) below 800Hz. This horn can be used on axis from 800Hz to 20kHz without any tweeter. The cleanest impulse response. Very few reflected energy from mouth to throat . Extremely low level of diffraction, HOMs...No breaking modes of the diaphragm. It may be difficult to find a bass loudspeaker having the same level of fidelity.



N°10 : Acoustichorn AH300 conical horn + RCA 1428B driver

Low H2 distortion level but rise of H3 below 3.5kHz. H3 is at the same level than H2 around 2500Hz and 1000Hz. Rise of all distortion components below 600Hz. Probable Fs of the driver around 300Hz. Frequency response curve displaying noticeable ripples between 1500Hz and 18kHz due a strong comb filter effect associated with very strong diffraction (or HOMs) visible on the spectrogram. (Note the 3 digitations of the reddish zone above 2kHz).

A very wavy group delay curve (with a lot of "negative" group delay artifacts due to the diffractions, HOMs...)

The spectrogram of that conical horn show the less amount of reflected wave from mouth to throat (see the spot at +3.3ms between 2 and 8kHz) but in the same time it shows the largest amount of diffraction + HOMs (for time <1.5ms). The worst possible impulse response!

