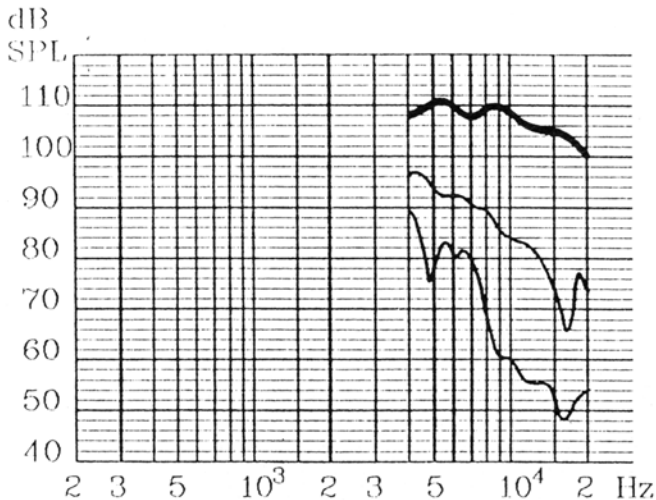


# D.A.S.

## Compression unit K-1



*Fundamental (top trace), 2nd harmonic (center trace) and 3rd harmonic (bottom trace) frequency response of the compression unit K-1 made in an echoless room at 1 W/1 m.*

### DESCRIPTION

D.A.S. has been manufacturing the K-1 high frequency compression unit, (Bullet tweeter) for nearly a decade. It is a tweeter which has become well known amongst the audio professionals worldwide.

The K-1 unit is used for a number of applications. For reproduction of ultra-high frequencies in discotheques, the tweeter has been widely accepted, basically on account of its response (as high as 20 KHz) and sensitivity rated at 110 dB, 1W/1 m. In p.a. systems, the K-1 completed the task of high frequency reproduction better than any other unit.

Musicians around the world agreed when it was time to select a reliable, powerful, yet smooth responding, compression unit. It is made out of die-cast aluminum with a plastic, back-cover to protect the magnetic structure. For more details, please see "specifications".

### SPECIFICATIONS:

- NOMINAL IMPEDANCE: 8 Ω
- MINIMUM IMPEDANCE: 7.7 Ω (at 8 KHz)
- DC RESISTANCE: 6.2 Ω
- FREQUENCY RANGE: 7 - 20 KHz
- SOUND PRESSURE LEVEL 1 W/1 m: 110 dB
- POWER (6 dB crest factor): 20 W (7 KHz)
- PROGRAM POWER: 40 W (7 KHz)
- VOICE COIL DIAMETER: 4.4 cm (1.73")
- VOICE COIL MATERIAL: Copper-clad aluminum
- DIAPHRAGM MATERIAL: Aluminum
- FLUX DENSITY: 2 T (20000 Gauss)
- ELECTRICAL CONNECTION: Push terminals  
(∅ 0.31 cm - 0.122")
- POLARITY: Red = Positive
- DOMe DIAMETER: 5.08 cm (2")
- NET WEIGHT: 2 Kg (4.4 lb)
- BEAMWIDTH (-6 dB, average 8 to 16 KHz): 34°(+17°-11°)
- DIRECTIVITY FACTOR Q (average 8 to 16 KHz):  
53.5 (+32.4, -27.3)
- DIRECTIVITY INDEX D<sub>i</sub> (average 8 to 16 KHz):  
16.82 (+2.5, -2.91) dB

Note: directivity and beamwidth specifications have been taken from the 1/3-octave bandwidth measures.

# THE A.E.S. STANDARDS

As sustaining members of the Audio Engineering Society (A.E.S.), D.A.S. Audio, S.A. prints data on all its professional sound products, following their norms and specifications.

All these standards can be found widely commented in several articles which have appeared in some issues of the Journal of the A.E.S. and the following one is particularly interesting:

"A.E.S. Recommended Practice Specification of Loudspeaker Components Used in Professional Audio and Sound Reinforcement." JOURNAL OF THE AUDIO ENGINEERING SOCIETY, VOLUME 32, 1984 OCTOBER.

This article establishes a set of primary specifications to be followed by manufacturers in describing loudspeaker components used in professional audio and sound reinforcement system design.

## POLAR MEASUREMENTS

The following characteristics were computed at selected, one-third-octave frequencies for the polar graphics shown on page 3 of this leaflet:

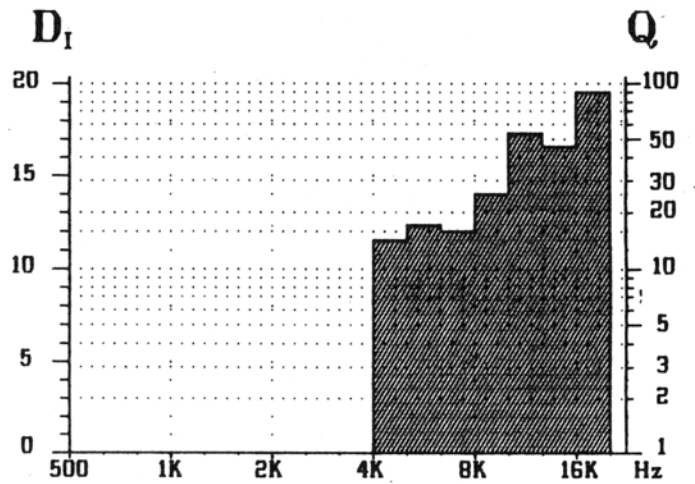
- a) the axial directivity  $Q$
- b) the directivity factor  $D_1$
- c) the beamwidth angles in degrees
- d) the off-axis frequency response.

These data are displayed on the right by means of three graphics.

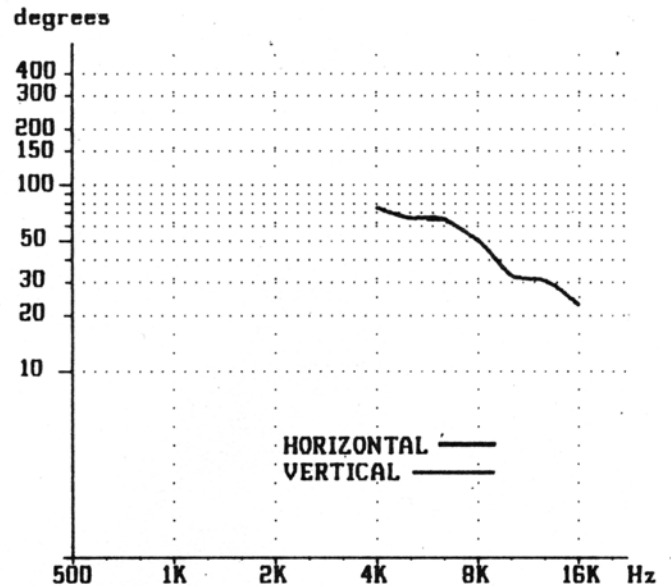
The polar graphs were obtained by placing the K-1 unit inside our echoless room at the top of a closed box covered by foam. The microphone used for measuring was placed at a distance of 4 meters from the unit's mouth.

Horizontal polar responses were plotted with a continuous line and vertical polar responses with an uncontinuous one. Scale is 5 dB per division. Rotation was carried out in the geometrical axes inside the horizontal and vertical planes as the drawings on the third page illustrate.

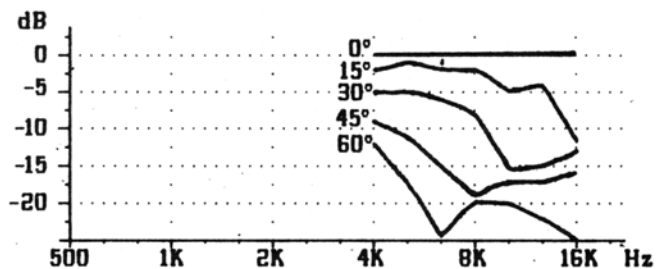
Possible errors due to the differences between geometrical and acoustical axes are insignificant because of the relatively large distances used during the measuring process.



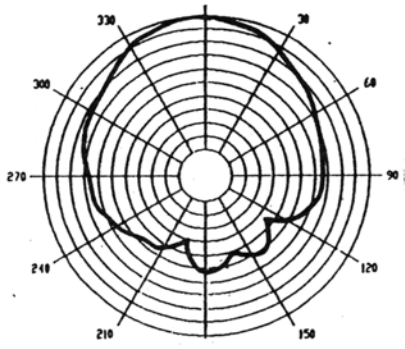
Directivity and index factor vs frequency



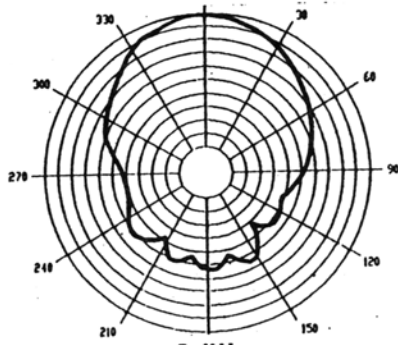
Beamwidth in degrees vs frequency



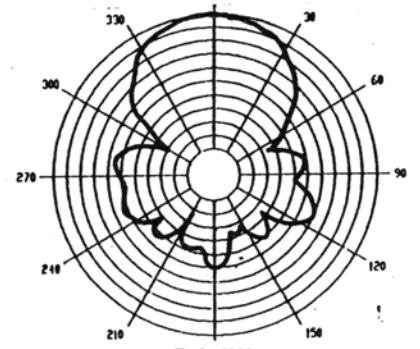
Off-axis frequency response



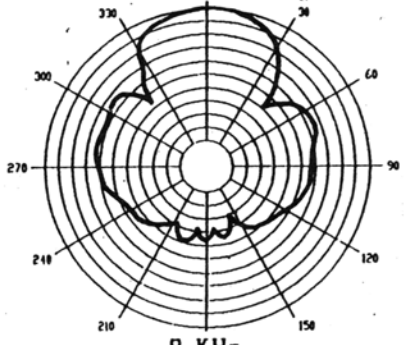
4 KHz



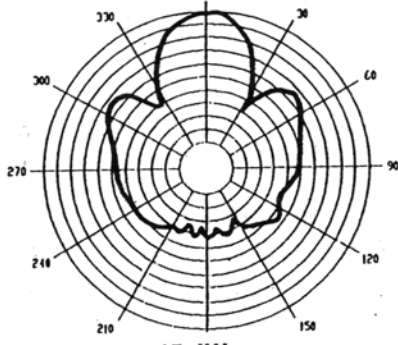
5 KHz



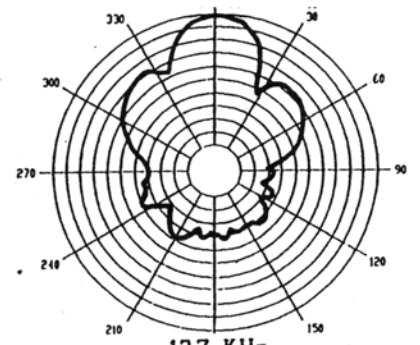
6.4 KHz



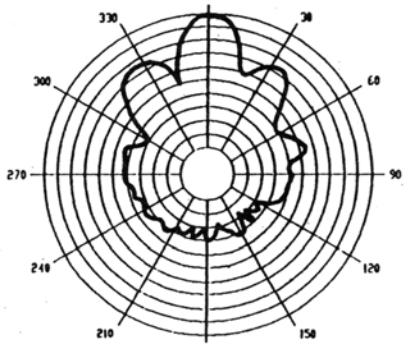
8 KHz



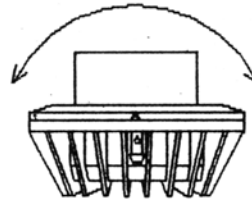
10 KHz



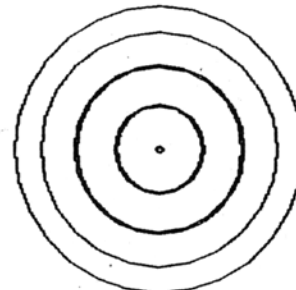
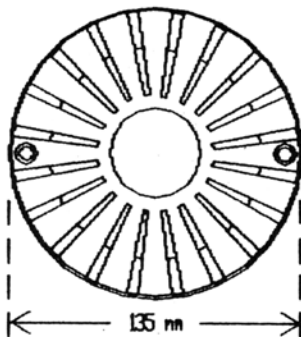
12.7 KHz



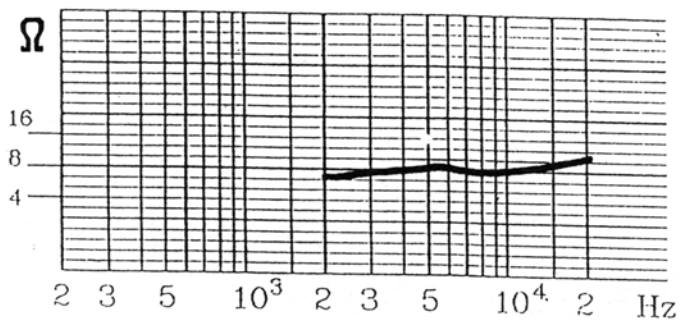
16 KHz



Horizontal and vertical rotation  
(scale is 5 dB per division)



Line drawings of the compression unit with dimensions.



*K-1's impedance response.*

## WARRANTY

D.A.S. could eventually, in order to improve the quality of our products, change the specifications enclosed without prior notice.

All D.A.S. professional sound products are guaranteed against defective workmanship for a period of five years.

In the event of a malfunction, the product should be returned to any D.A.S. authorized service center or to the factory for appropriate inspection and repair.

**D.A.S. Audio, s. a.**

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