Studio Series

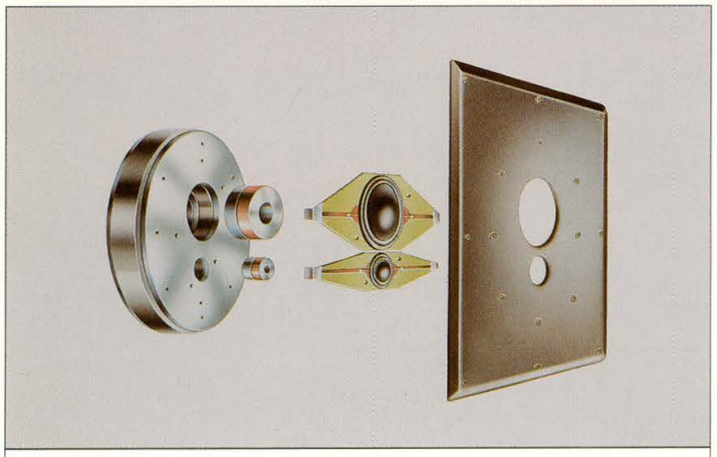
EAW/RCF SCD6000

Nearfield Reference Monitor

EAW

EASTERN ACOUSTIC WORKS

EAW / RCF Studio Series SCD6000
Nearfield Reference Monitor



SCD6000
Mid/High Frequency Driver Construction

High Tech Studio Reference Monitor
Designed for digital and advanced analog audio quality assurance.

True Flat Power Response
Greater than 120 degrees horizontal coverage with less than +- 3 dB over 90 degrees horizontal plane.

Absolute Flat Axial Response
+- 2.5 dB 45 to 20,000 Hz on axis.

High Acoustic Output
300 watts pink noise power handling, 91 dB sensitivity, 1 watt at 1 meter and 115 dB SPL at 1 meter before 6% distortion.

Single Magnet MF/HF Driver
Enables the drivers to be located closer together for unmatched imaging and exceptionally smooth transition at crossover.

Magnetic Dampened MF/HF Voice Coils
For lower distortion and increased thermal power handling.

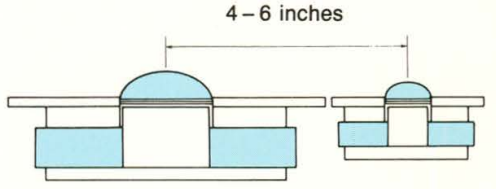
Benefits Of The SCD6000's Unique Single Magnet Structure Mid And High Frequency Driver

Ordinary monitors have separate mid and high frequency drivers that are acoustically spaced by 4 to 6 inches on center to each other. This distance prevents them from combining as a single source at crossover and creates time related problems. The result is poor source localization and frequency response non-linearity due to phase delays.

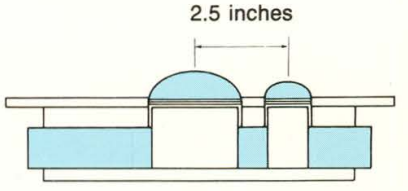
The SCD6000 answers this problem by utilizing a single massive magnet structure with both the 52 mm mid and 26 mm high frequency domes together. The two diaphragms are within 2.5 inches of each other's acoustic centers, (well less than a wave length at crossover), for unaltered phase linearity even as you move to different listening positions. The result is a monitor without match in terms of imaging and axial and power response linearity.

Additionally, the use of soft dome diaphragms in both mid and high frequency components improves dispersion, while their advanced technology voice coils operate in gaps filled with high heat dissipation ferromagnetic fluid for increased thermal power handling and lower distortion.

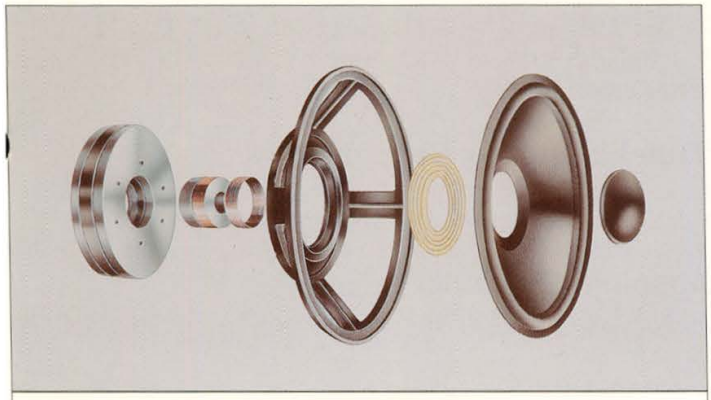
The SCD6000's superior accuracy can easily be seen by comparing off-axis response plots with that of competitive systems like the JBL 4411. But all you have to do is listen to the SCD6000 in an A-B comparison to the competition and you will hear how much more "open" and detailed it is, and so will your clients.



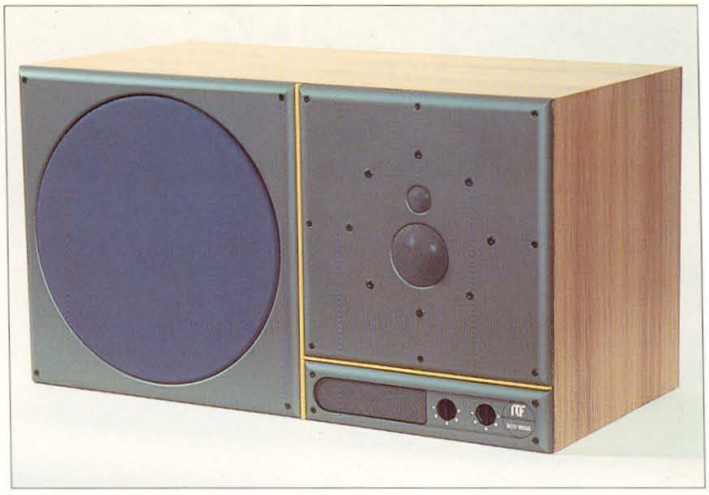
Typical separate mid and high frequency driver in conventional monitor
Note: The distance between driver centers is minimum 4 inches and typically 6 inches. This causes phase problems at crossover which vary with listening position.



SCD6000 Mid/High Frequency Driver
Note: The acoustic center of the drivers is less than 2.5 inches, which is less than a wave length at crossover. This results in minimum phase differential, regardless of listening position.



SCD6000
Low Frequency Driver Construction



Butyl Rubber Surround Low Frequency Driver

The low frequency loudspeaker used in the EAW/RCF SCD6000 monitor incorporates the latest technology and the finest components to achieve smooth response, extended bandwidth and low distortion. The driver features an advanced European poly-laminated paper cone with butyl rubber suspension. Exclusive to the SCD6000, this butyl surround offers extended excursion normally associated with foam materials while providing greater consistancy, much higher reliability and considerably lower distortion modes. The voice coil itself is 75mm (3 in) in diameter and 20mm (.79 in) long and operates in an exceptionally massive magnetic assembly.

Advanced Minimum Phase Crossover Network

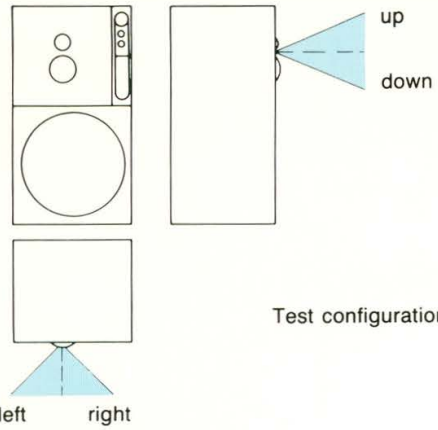
The sophisticated crossover network of the SCD6000 utilizes a number of technical refinements that improve the phase response and linearize the impedance module of the system. Asymmetrical slopes are used throughout to achieve maximally flat acoustic performance. The components are built on three printed circuit boards mounted on the back panel of the cabinet for maximum reliability and heat dissipation. The use of open core iron inductors is unique to the SCD6000 enabling low insertion loss and total freedom from distortion.

Function, Not Precedent, Shapes The Eurostyle Baffle

Like the component design, the cabinet and baffle have been rethought, reengineered, and reconsidered from an acoustical perspective. The roundness of the moulded polymer baffle softens hard edges for reduced defraction effects. The mid / high frequency section can be rotated so the mid/high frequency acoustic centers are always vertically aligned for optimum performance in both horizontal and vertical configurations. The cabinet is made of high density compressed wood covered in natural oak wood. The side and back panels are 20 mm (0.79 in) thick and the front panel is 30mm (1.18 in) thick for total freedom from vibration. Easy access to system adjustments are provided on a front baffle control panel. You've never seen anything like it - yet it's so right. And it works even better!

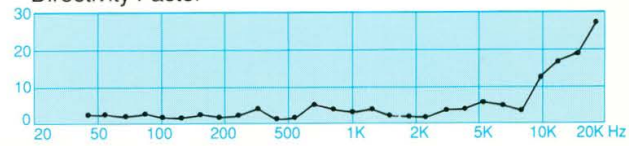
SCD6000 Specifications

Frequency Response	
+- 2.5 dB:	50 to 20,000 Hz
- 10 dB:	30 to 24,000 Hz
Sensitivity:	91 dB SPL 1w @ 1m
Efficiency (Half Space) Reference:	1.1%
Dispersion Angle (400 to 10k Hz)	
Horizontal:	160 degrees (+10 -30)
Vertical:	100 degrees (+30 -30)
Directivity (200 to 16k Hz)	
Directivity Factor (Q):	5 (+4, -3)
Directivity Index (DI):	1.5 dB (+1, -0.5)
Controls	
Mid Frequency:	-2 dB to +2 dB
High Frequency:	-2 dB to +2 dB
Nominal Impedance:	8Ω
Power Capacity	
AES Standard 2 Hour Pink Noise:	200 W
Continuous Program:	400 W
Maximum SPL Before Distortion:	115 dB SPL @ 1m
Power Compression:	<1.0 dB 1w to 200 w
Distortion At 100 dB	
Second Harmonic:	
40 to 200 Hz:	<1.0%
200 to 2,000 Hz:	<0.8%
2,000 to 20,000 Hz:	<0.5%
Third Harmonic:	
40 to 200 Hz:	<0.5%
200 to 2,000 Hz:	<0.5%
2,000 to 20,000 Hz:	<0.3%
Crossover Data	
Frequencies:	900, 4,500 Hz
Slope:	Asymmetrical 18 dB per octave
Type:	Third Order Equalized
Low Frequency Driver:	300 mm (12-inch) Poly Laminated Cone
Voice Coil Diameter:	52 mm
Flux Density:	13,000 Gauss (1.3 Tesla)
Mid/High Frequency Driver:	52 mm soft dome and 26 mm soft dome drivers with single magnetic structure
Dimensions:	674 x 372 x 350 mm (26.5 x 14.65 x 14.37 in)
Weight:	30 kg (66 lbs)

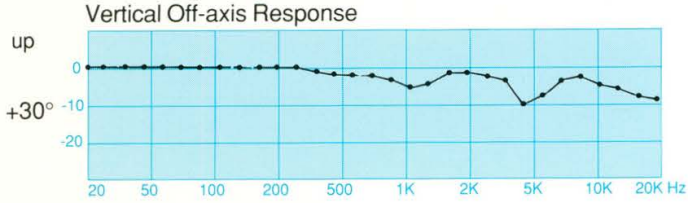


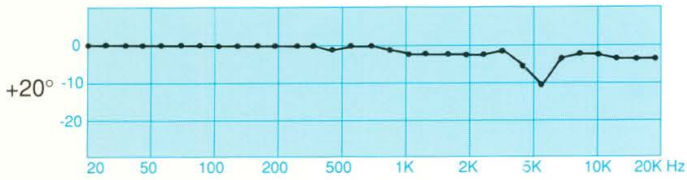
Test configuration

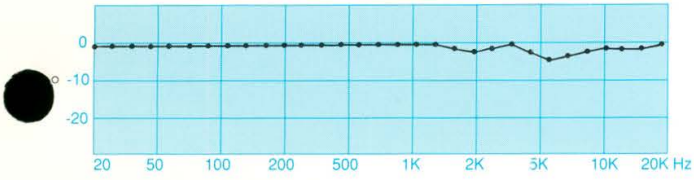
Directivity Factor

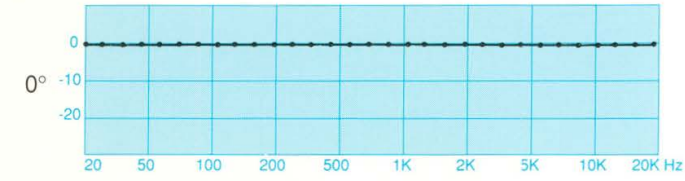


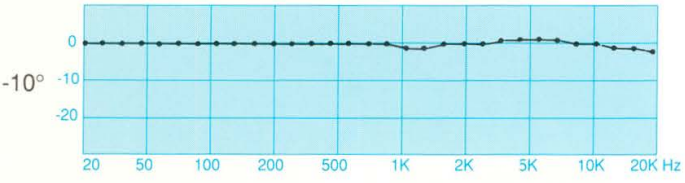
Vertical Off-axis Response

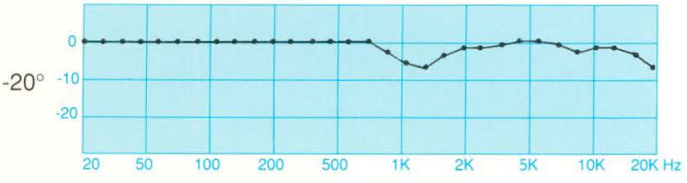


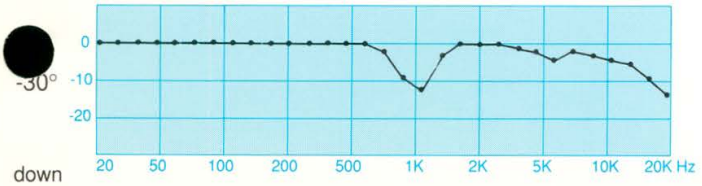








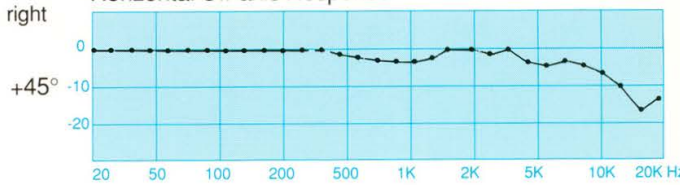


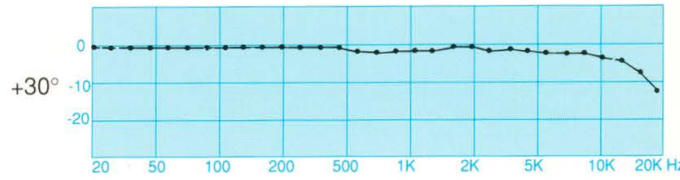


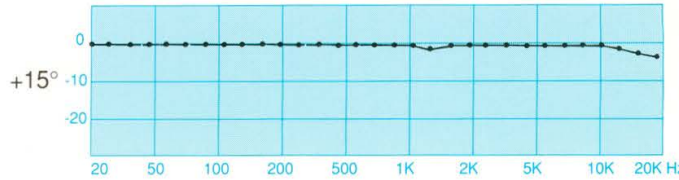
down

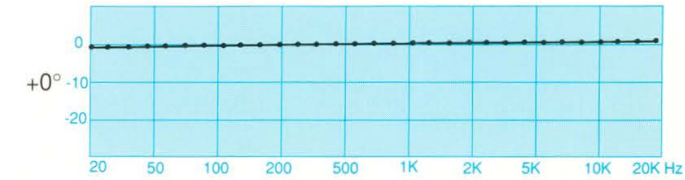
(referred to on-axis)

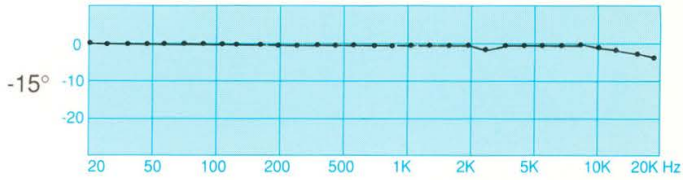
Horizontal Off-axis Response

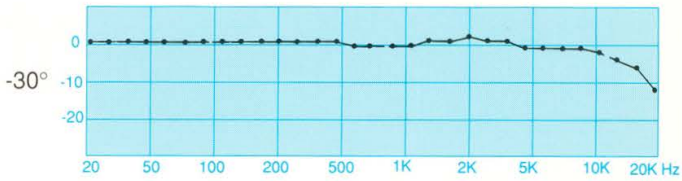


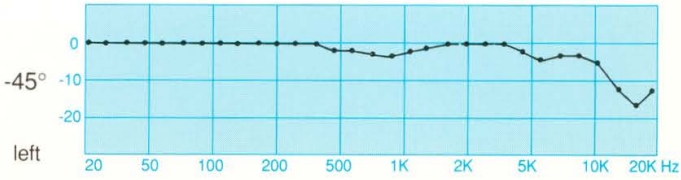






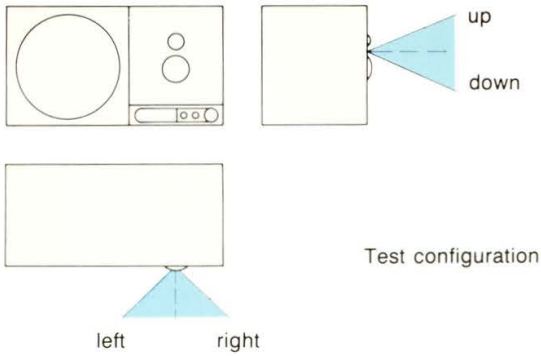




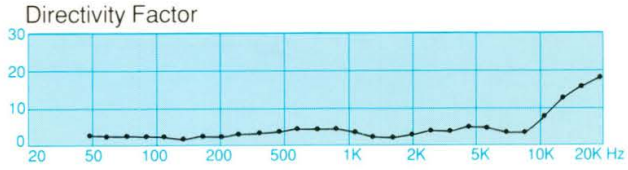


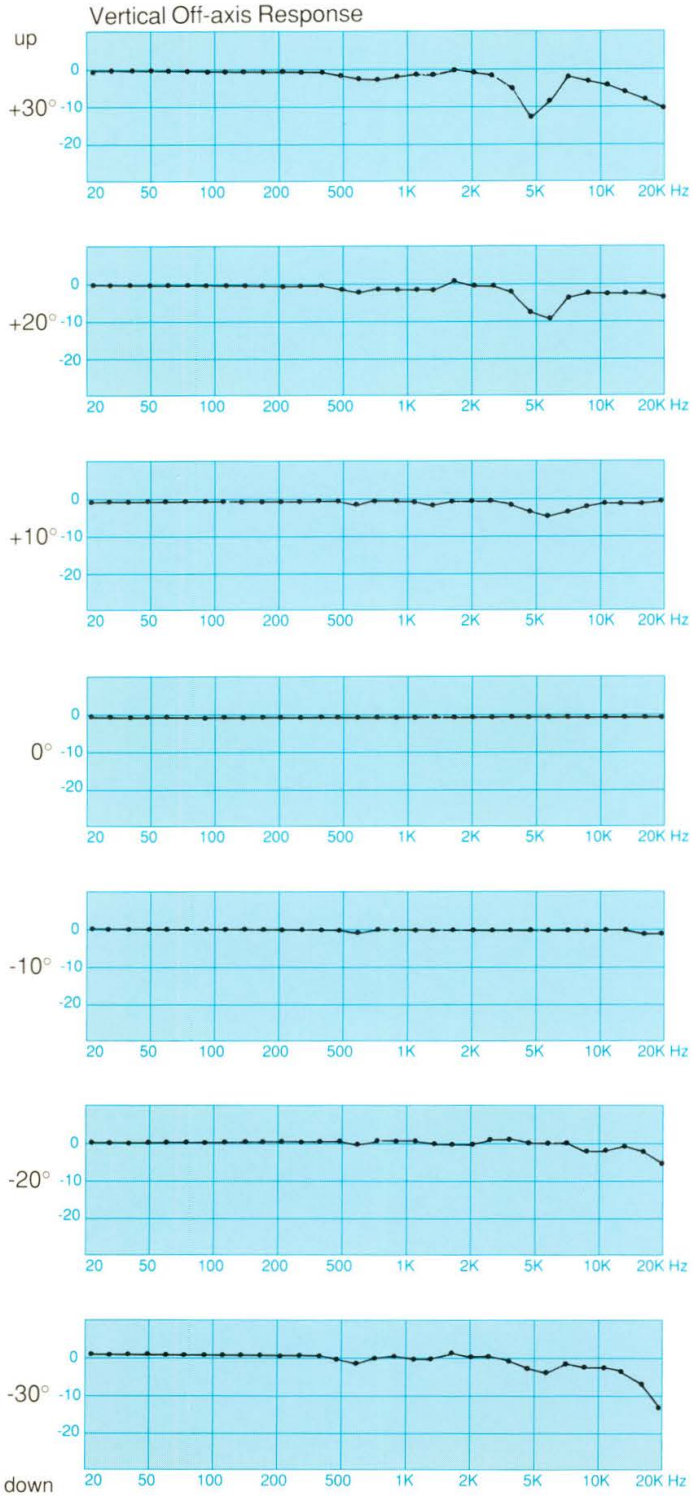
left

(referred to on-axis)



Test configuration





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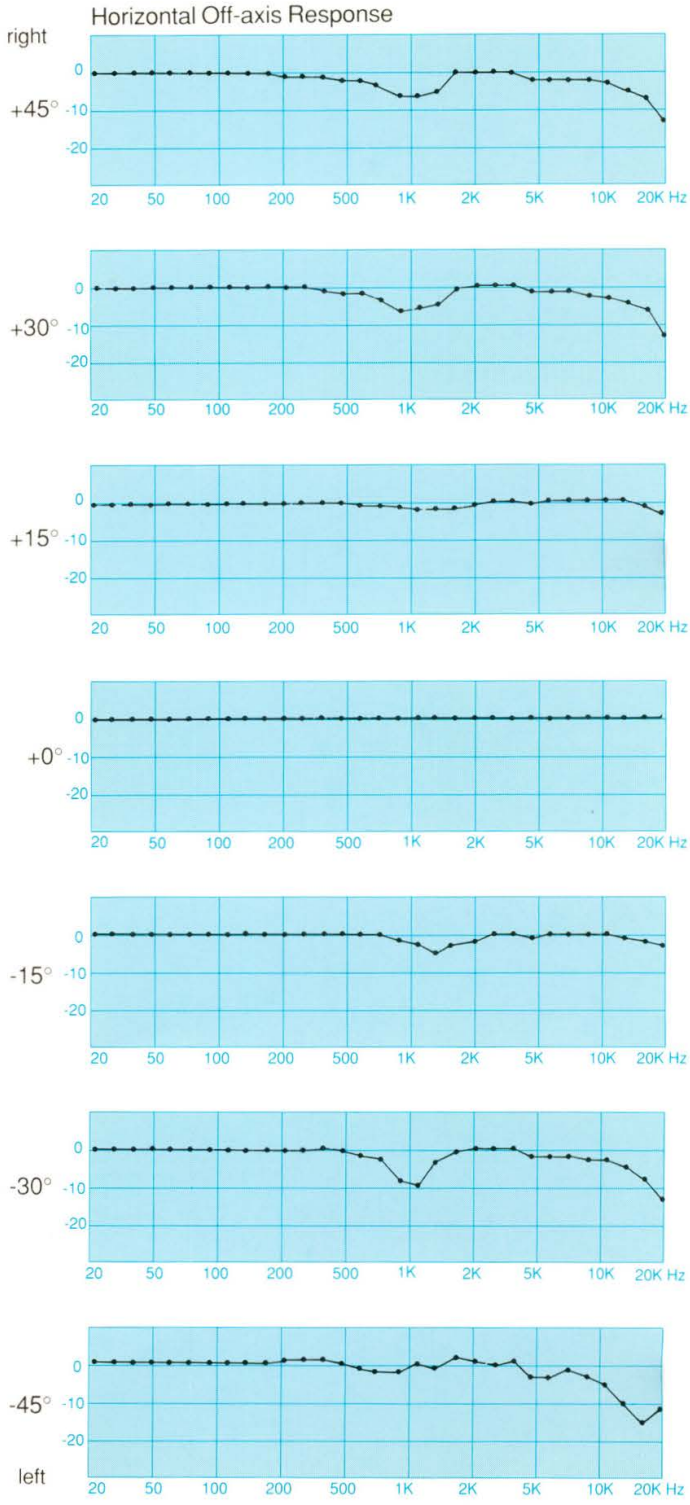

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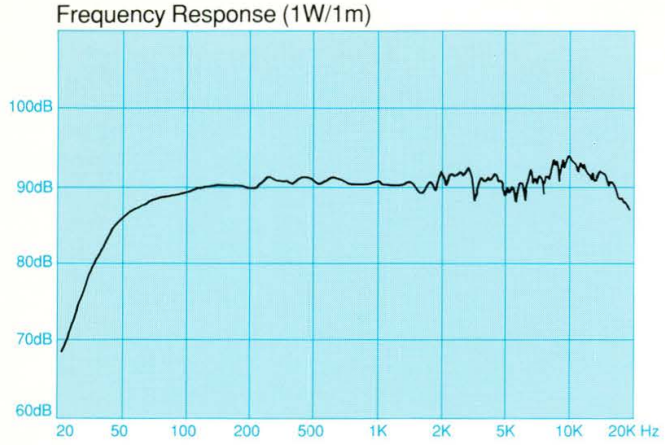
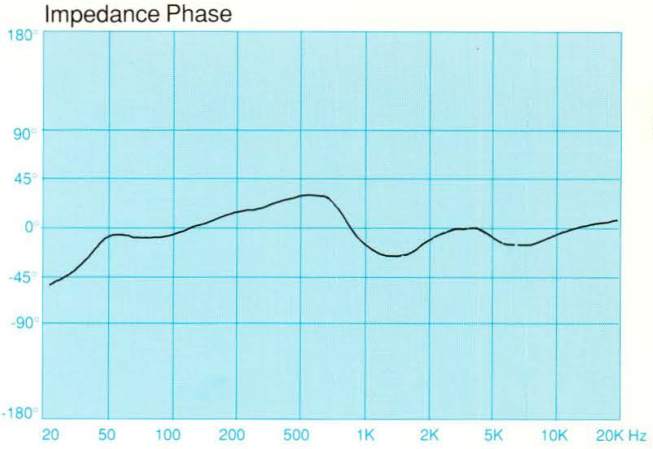
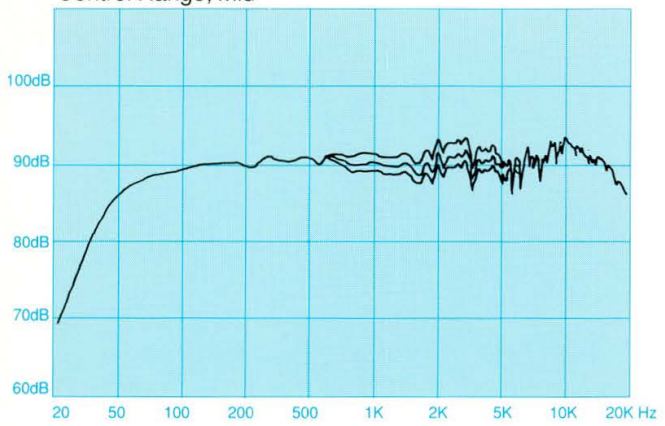
Frequency Response (1W/1m)



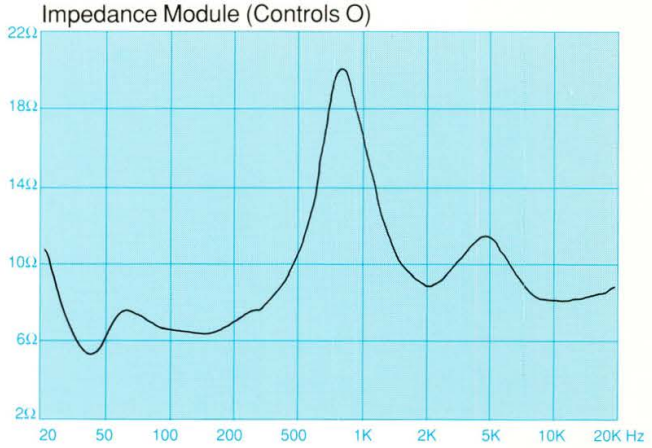
Impedance Phase



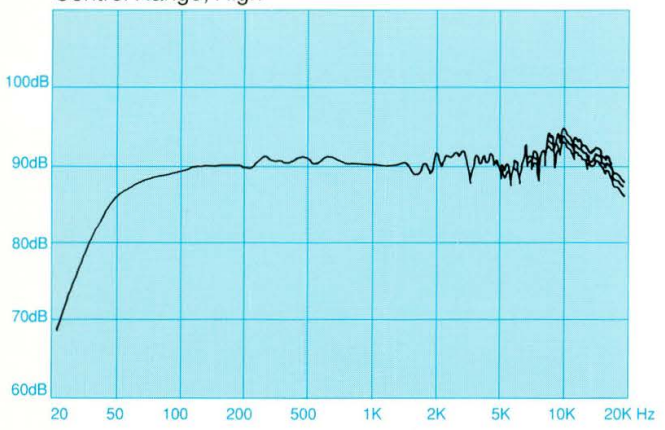
Control Range, Mid



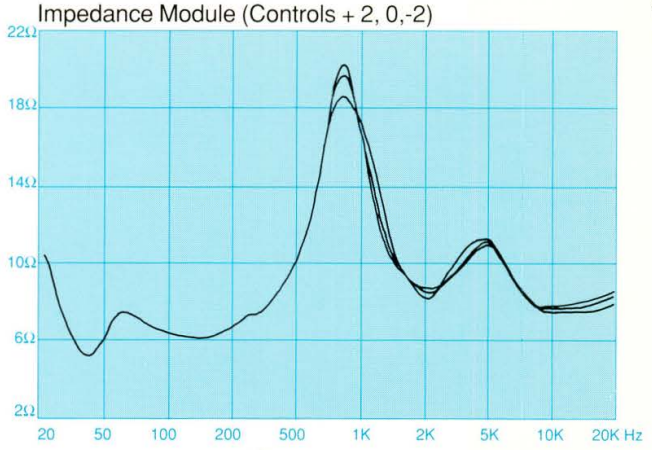
Impedance Module (Controls O)



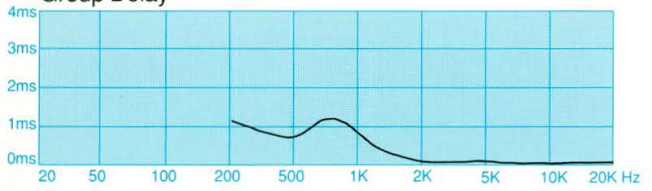
Control Range, High



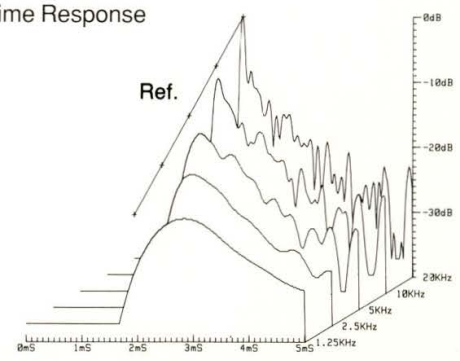
Impedance Module (Controls + 2, 0,-2)



Group Delay

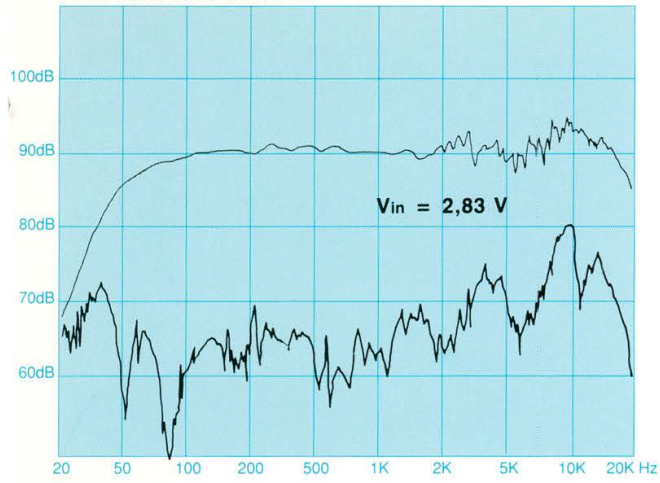


3D Time Response

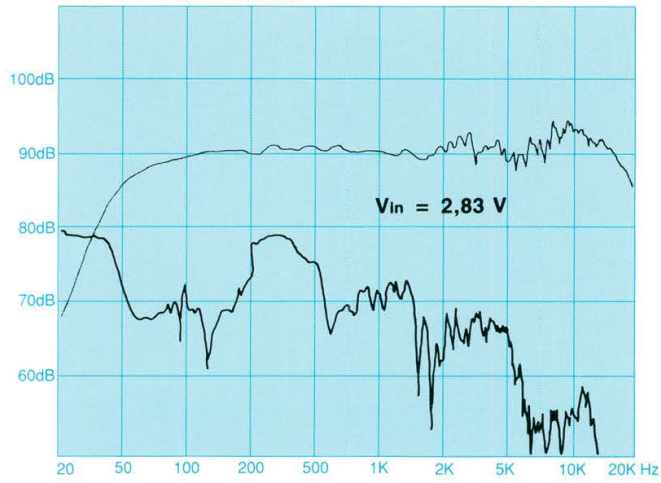


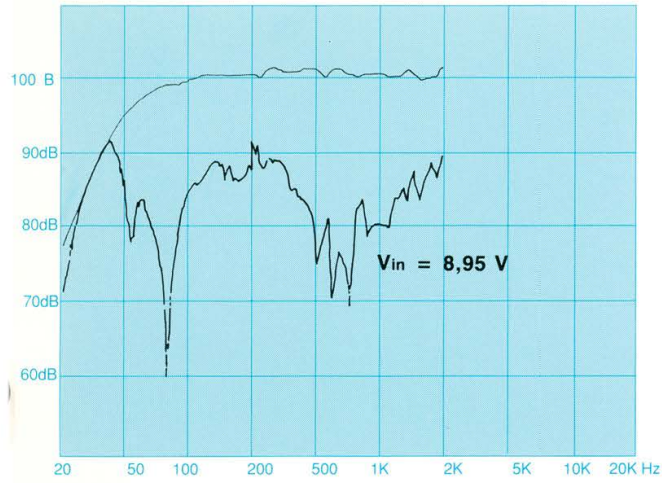
Test is carried on as follows: the loudspeaker is driven by sen² impulse and transducer time response is analyzed with FFT analyzer. The points of the reference line correspond to a perfect frequency and phase linearity: the intercepts between the first peak of the curve and the reference line indicate response nonlinearity or emission delays. Additionally, the curve decay depends on loudspeaker damping or reflections and diffractions.

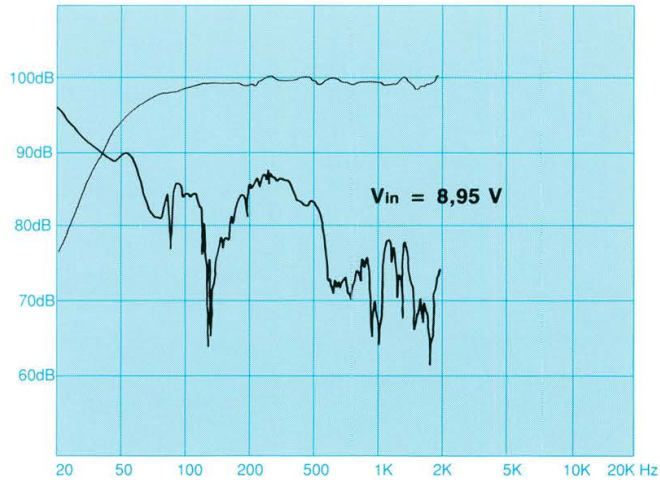
2nd Harmonic Distortion

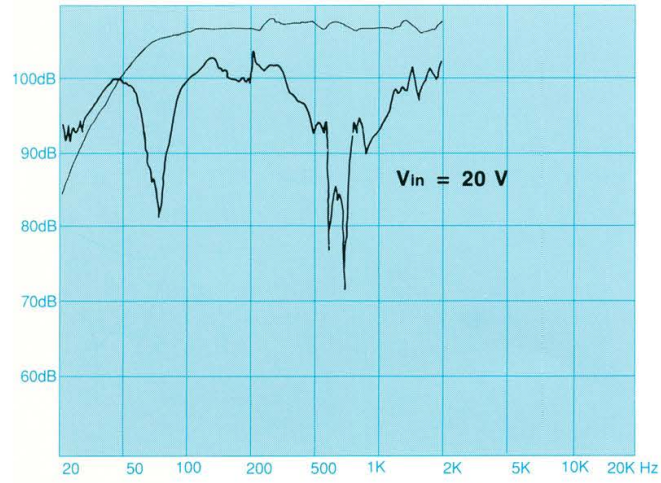


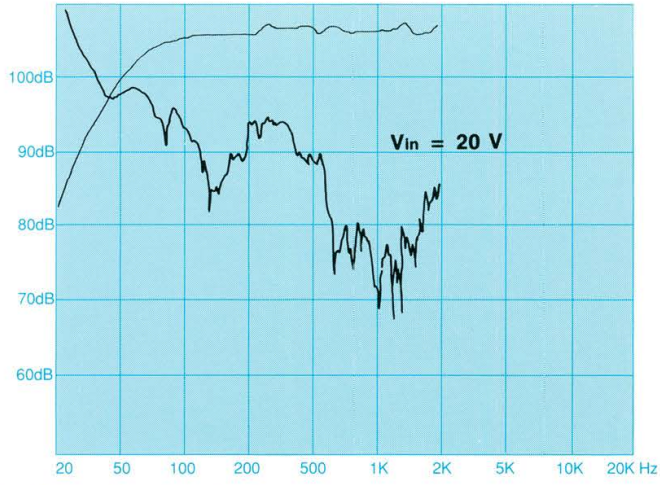
3rd Harmonic Distortion





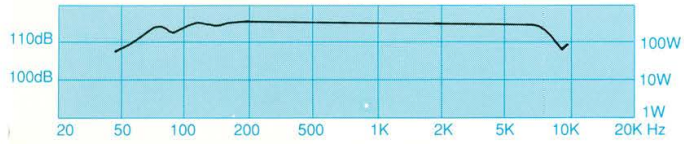




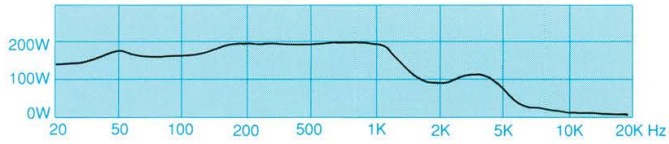


DISTORTION CURVES RAISED 30 dB

P.I.M. Maximum Instantaneous Power



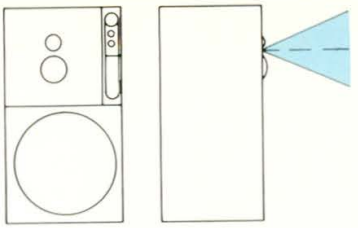
Maximum Electrical Input Power



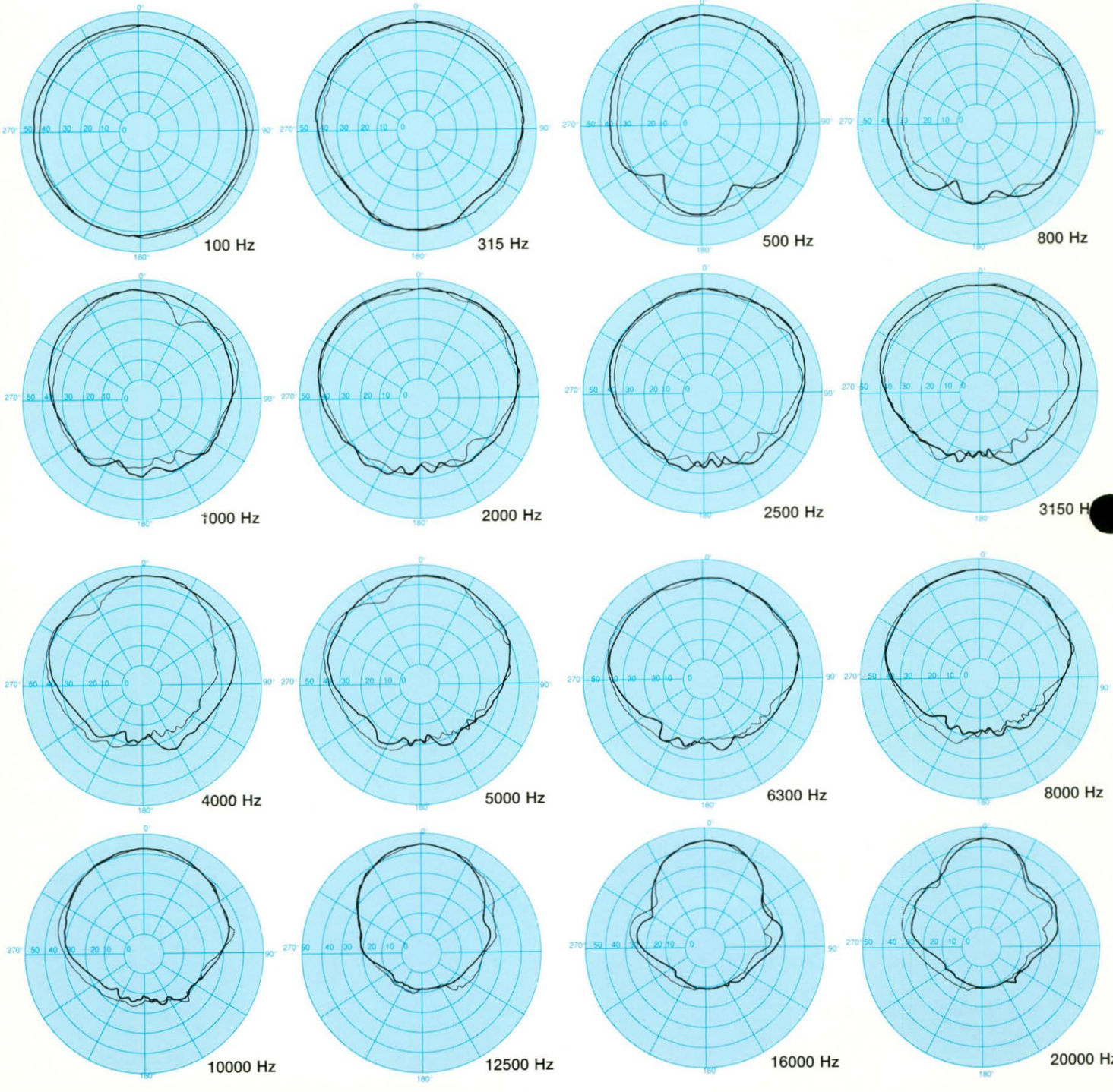
* *Test is carried on as follows: the loudspeaker is driven by sine wave bursts of a determined frequency f_0 and the harmonic distortion generated by the transducer is analyzed with FFT analyzer. It is assumed as maximum instantaneous power at frequency f_0, the limit input power (ref. V^2/Z nom.) before preset values of distortion harmonics are exceeded (6.7% for 2nd harmonics, 3% for 3rd harmonic, 1.7% for 4th harmonic, 1% for 5th harmonic. etc.). The input power is 400 W maximum. This test allows to evaluate the capabilities of the loudspeaker of reproducing impulse signals without generating distortion.*

POLAR PATTERN

- HORIZONTAL
- VERTICAL



Test configuration



EAW
EASTERN ACOUSTIC WORKS

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