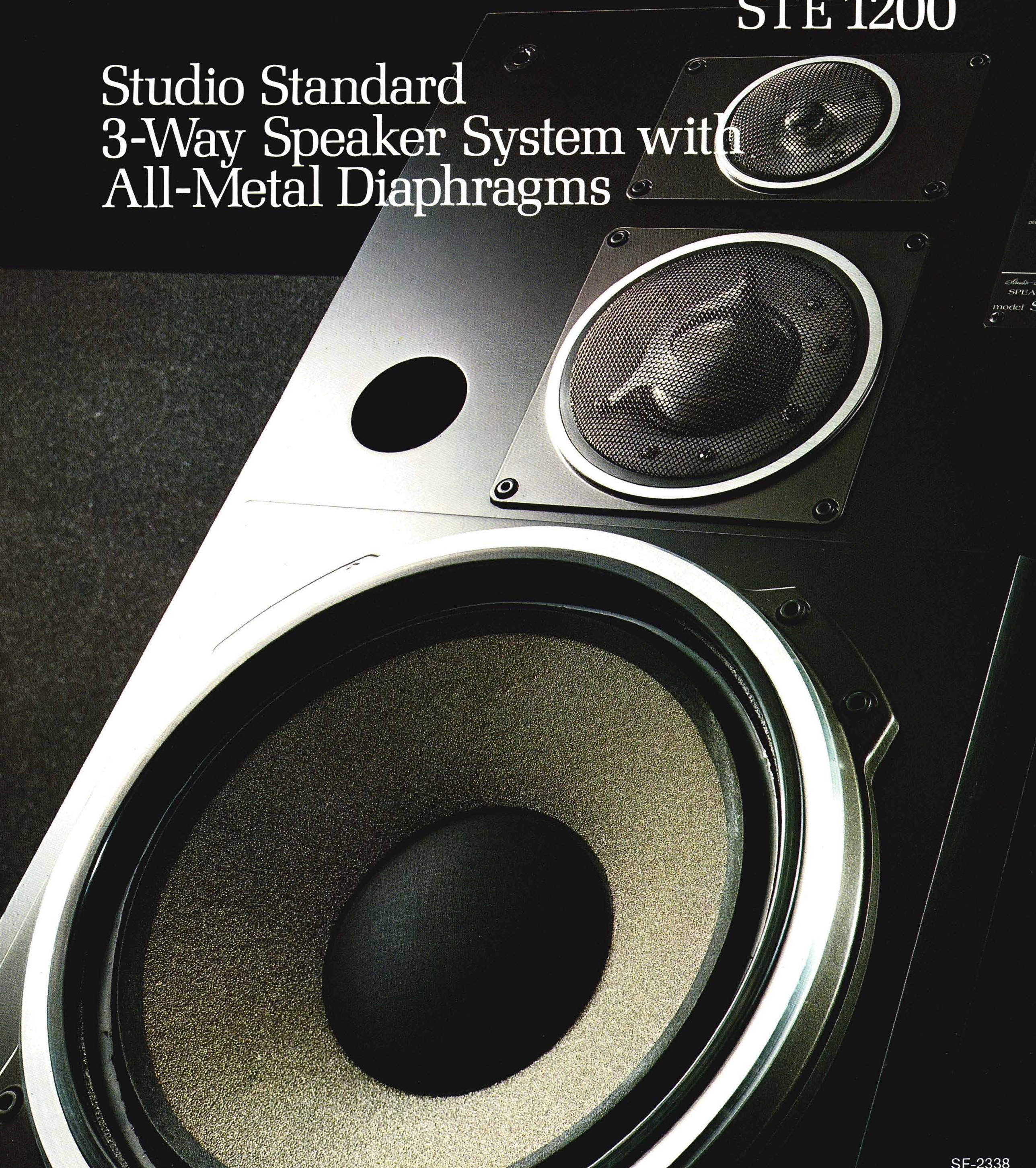
FISHER

STE 1200

Studio Standard 3-Way Speaker System with All-Metal Diaphragms



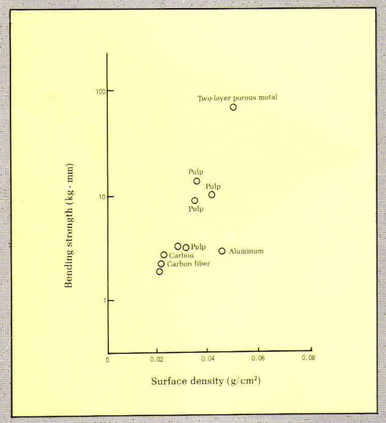
SF-2338

Innovative technology that means power without distortion, phase control and enhanced bass reproduction.

All-Metal Diaphragms

To ensure rich, faithful sound reproduction, the diaphragm of each speaker has to be not only strong but also responsive to all the subtleties of the music signal. Yet only a metal diaphragm can ensure both durability and excellent transient characteristics, piston action with power to spare and flat frequency response. And only the porous metal structure developed for the diaphragms of the Fisher STE 1200 can deliver all of these without giving way to distortion or a metallic sound.

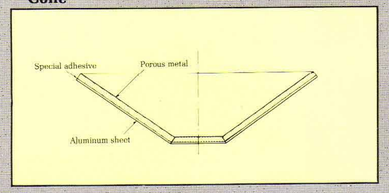
■ **Diaphragm Performance According to Material**



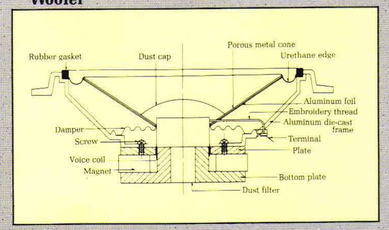
Porous Metal Cone Woofer

To ensure extra power in the bass range, where it is needed most, Fisher also employs its unique porous metal in its woofer cone. The 3-dimensional, air-filled framework called "porous metal" is created by a process in which nickel, an extremely stable metal, is "foamed" into the desired shape. This porous layer is sealed with a 20μ layer of aluminum foil that displays outstanding strength and excellent transient characteristics. The result of this layered cone structure is a woofer that not only ensures low distortion and a Q value of 20—22 (comparable to that of a paper cone), but also guarantees durability while delivering the ideal level of piston action—900Hz.

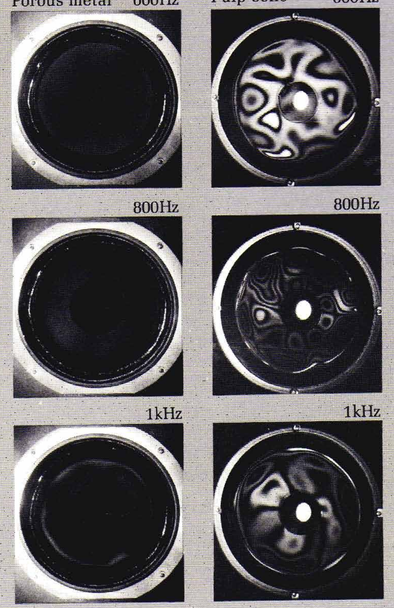
■ **Cross-Sectional Diagram of a Porous Metal Cone**

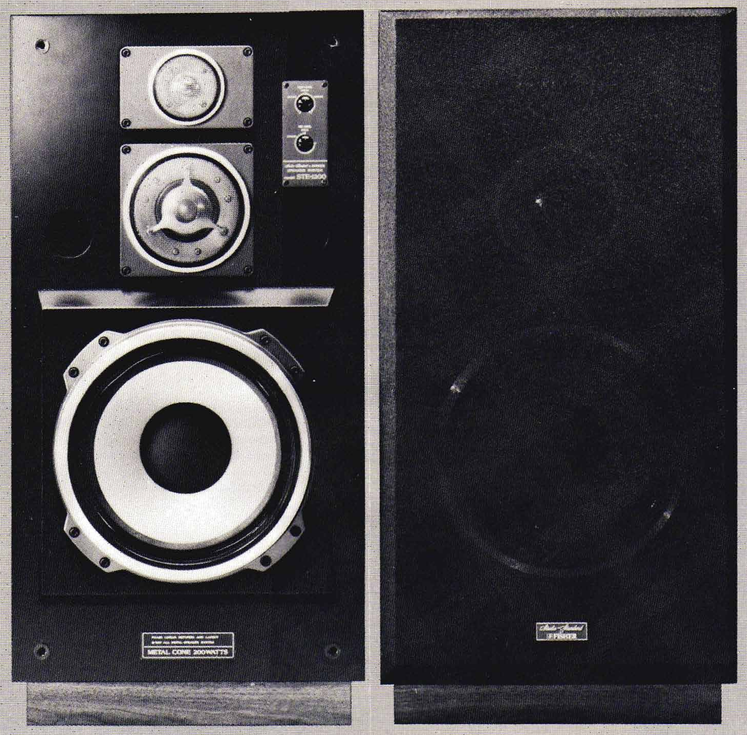


■ **Cross-Sectional Diagragm of the STE 1200 Woofer**



■ **Laser Holograph Analysis of Speaker Performance**

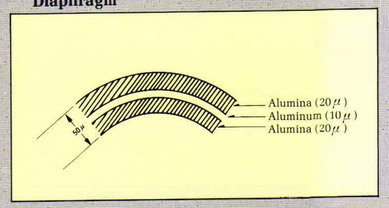




Multi-Layered Metal Dome Midrange

The midrange speakers of the STE 1200 employ a multi-layered dome structure composed of a pure aluminum base oxidized on both sides to ensure strength, durability and plenty of piston action to cover its frequency range. The dome-type design was selected because of its excellent directional characteristics and the rich, natural sound it delivers. This midrange also incorporates a "scooped-out" magnetic circuit to substantially cut magnetic distortion and dramatically increase the level of sound clarity.

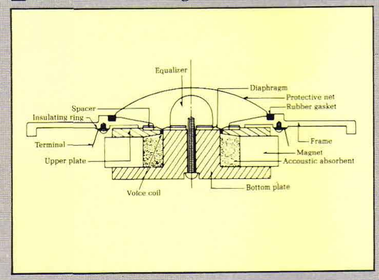
■ **Cross-Sectional Diagram of Midrange Diaphragm**

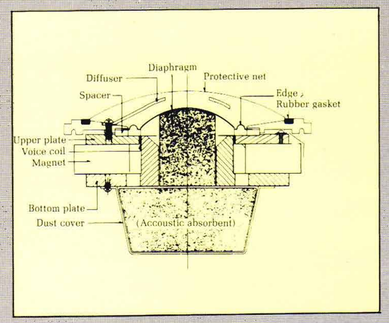


Metal Ring Free-Edge Tweeter

The diaphragm of the STE 1200 tweeter forms a ring which is indented in a "v" shape with edges on both sides. These edges have long slits in them to create an effect similar to having 4 supporting points around both the inner and outer edges. This design cuts diaphragm weight and minimizes the distance between the edge and the driving point of the voice coil, thereby ensuring plenty of piston action without partial vibration. The free-edge structure raises amplitude linearity while lowering the resonance frequency and ensuring smooth takeover from the midrange.

■ **Cross-Sectional Diagram of the Tweeter**





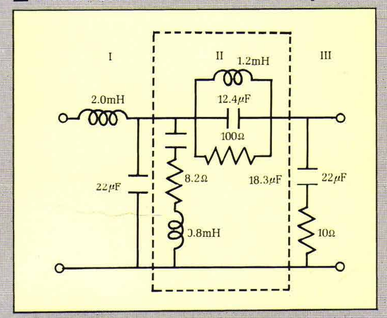
Specifications According to Diaphragm Material

	Density ρ (g/cm²)	Sound transmission speed C (m/sec.)	Young rate E (kg/mm²)	Standard bending strength (c/p)	Material cost ratio
Oxidized aluminum (Alumina)	2.48	6700	12,000	2.7	1
Aluminum	2.65	5150	7,028	1.9	1
Magnesium	1.74	4800	4,000	2.7	10
Titanium	4.54	4800	10,520	1.1	28
Berilium	1.82	8400	12,700	4.6	160

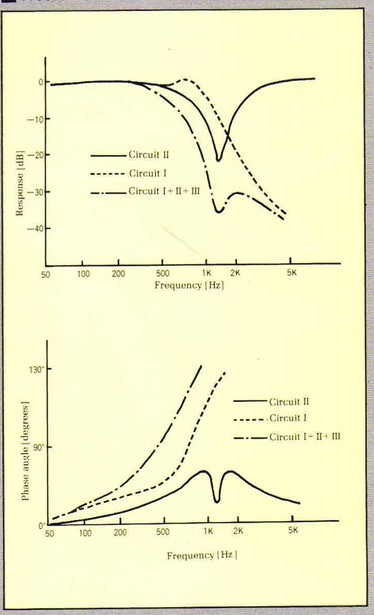
Phase Control for "Coherent Sound"

In order to eliminate phase differences between the different frequency ranges and ensure smooth phase characteristics, the STE 1200 incorporates a phase-adjustment circuit in its crossover network and also cuts off speaker reproduction at the steep slope of −20dB/OCT. outside its specified frequency range. Each speaker unit also employs a 3-dimensional layout for general phase control, thereby lowering time-lapse distortion between frequency ranges. The result of this 3-way campaign against phase distortion is the clear, natural audio reproduction we call "coherent sound."

■ **Woofer Crossover Network Circuitry**



■ **Woofer Crossover Network Performance**



110 ℓ Floor-Type Speaker with Bass Reflex Design and Acoustical Damper

High density particle board is used for the cabinet exterior and is built up to a thickness of 65mm near the woofer to ensure extra protection against external vibration and excess resonance.

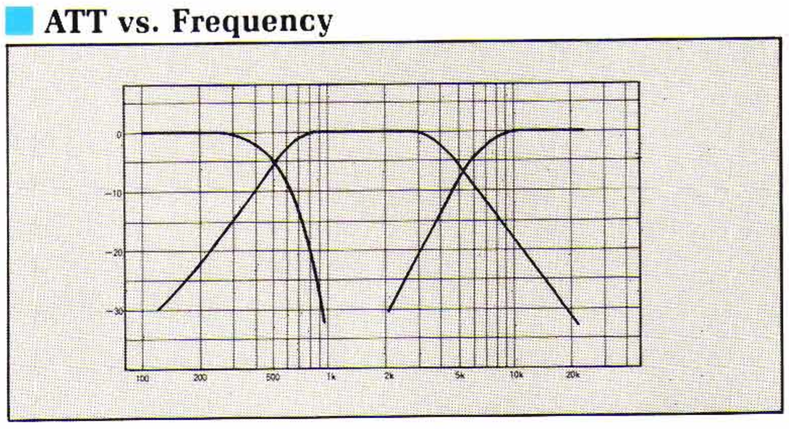
STE 1200 3-Way Speaker System with All-Metal Diaphragms

SPECIFICATIONS

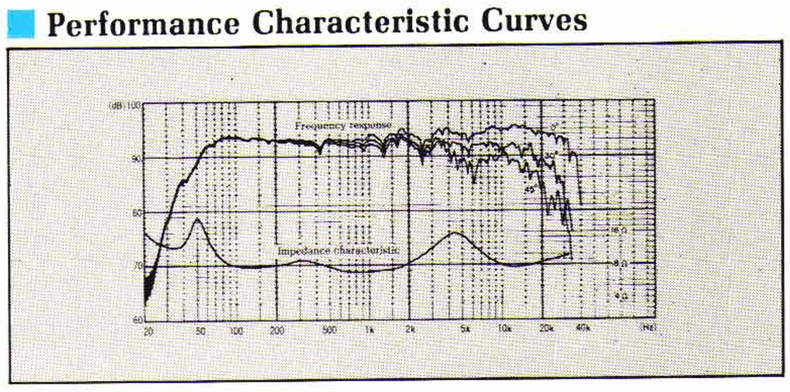
Type	3-way bass reflex system
Speakers	Woofers: 30cm diameter, uni-cone type (porous metal cone) Midranges: 67mm diameter, hard-dome type (oxidized aluminum dome) Tweeters: 38mm diameter, ring type
Rated input capacity	100W (200W peak)
Output level	93dB/1m
Frequency range	25—35,000Hz
Nominal impedance	8 ohms
Crossover frequencies	500Hz, 5,000Hz
Bell control	MID. +1dB to approx. infinity HIGH +3dB to approx. infinity
Dimensions (W×H×D)	450×910×430mm
Weight	51 kg

*Specifications subject to change without notice.

ATT vs. Frequency



Performance Characteristic Curves



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