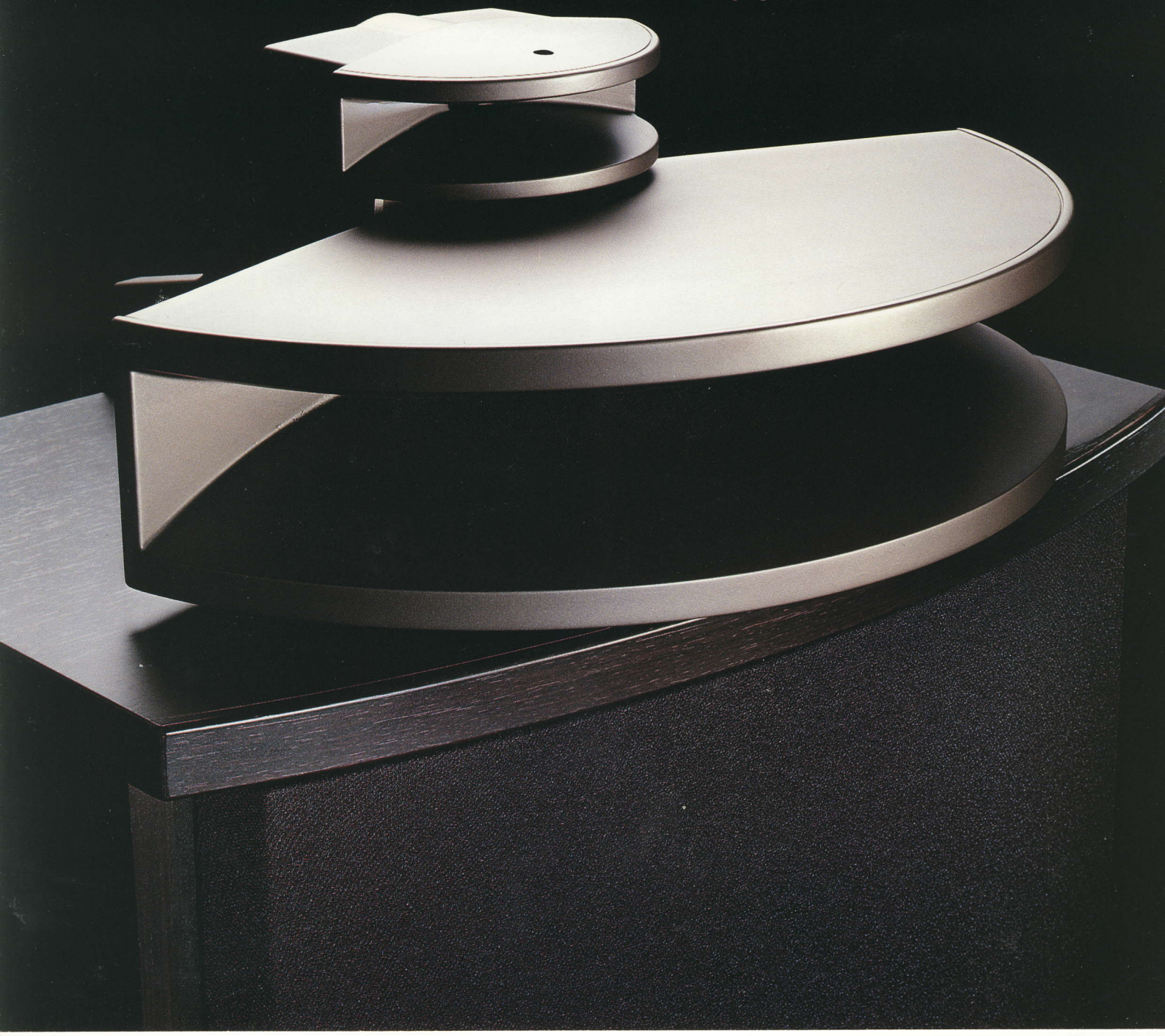
Technics SB-E100

3-Way Horn Type
Linear Phase Speaker System

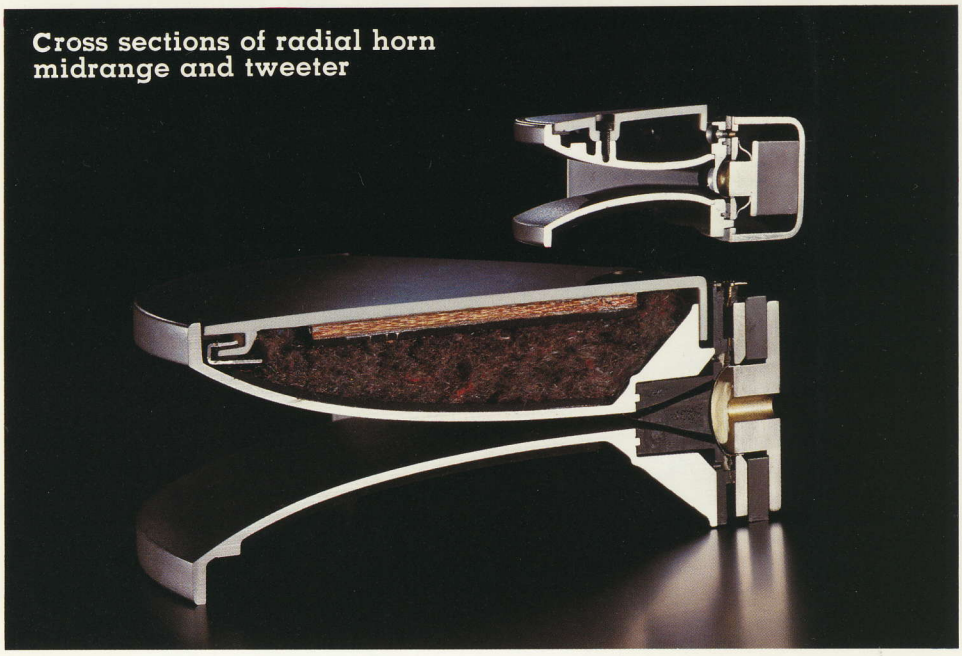
The Sonic Purity of "Linear Phase Waveform Fidelity," The Efficiency of Horn Coupled Midrange and Tweeter Drivers

In terms of efficiency and sheer scale of sonic power, the principle of coupling a midrange driver or tweeter to the surrounding air by means of a horn has long been unsurpassed. Technics now proves that these inherent advantages of horn speakers can very well be combined with the smoothness, silky lustre and true waveform transducing fidelity that Technics systems in other configurations have long been famous for. Model SB-E100 is a medium sized floor standing speaker with its entire enclosure volume serving the woofer as a bass reflex load, the midrange and tweeter horns being mounted on top and aligned for optimum phase linearity. Linear phase response and waveform fidelity are further enhanced by the characteristics of the drivers themselves and by the very special design of the crossover network. And it is this waveform fidelity that explains why these Technics speakers can so effortlessly reproduce complex pulse signals and why they give such an uncannily sharp stereo image. May we elaborate a bit on what makes up these astounding speaker systems?



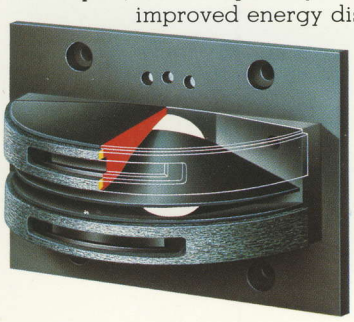
30cm Woofer in Bass Reflex Enclosure Gives High Efficiency

For a finely balanced match with the high efficiency mid and high range horns, a woofer of equally high efficiency was chosen (95dB SPL at 1m, 1W). Aided by its light and solid cone, its high compliance damper and non-directional urethane edge, it delivers crisp, well controlled bass energy aplenty. The highly heat resistant voice coil bobbin insures high power handling capacity: 150 watts, music.



Radial Horn Midrange Driver of Wide Dispersion Angle

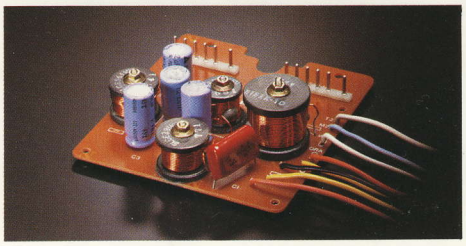
Covering a horizontal angle of 150 degrees, the radial midrange horn completely avoids the danger of "beaming", giving a spacious, unrestricted stereo listening area. The horn is solid aluminum diecast deadened against horn resonances with sheets of natural latex and bolted to the woofer enclosure. The driver itself uses an aluminum alloy diaphragm only 30 microns in thickness of excellent transient response, a copper clad aluminum wire voice coil wound on an aluminum bobbin of very good heat dissipation. This construction and the high magnetic flux density of 13,200 Gauss account for the high efficiency and low distortion of this driver. It is coupled to the horn via a newly developed, shell-shaped equalizer for improved energy dispersion.



Equally Wide Dispersion from Horn Tweeter

The horizontal horn opening angle of the tweeter encompasses the same 150 degrees as in the midrange. Again the radial horn is aluminum diecast covered with anti-resonant natural latex and equipped with a diecast equalizer for wide, balanced energy distribution. Driver data attest to the high performance of this unit: 14mm ø voice coil, very thin (50 microns) metallized polyester film diaphragm, alnico magnet with 12,500 Gauss flux density, copper-clad aluminum wire voice coil for high efficiency.

Special Crossover Network, Staggered Driver Arrangement Give Linear Phase Response



All conditions for linear phase response have been fulfilled: drivers of wide, flat frequency response used only in their areas of optimum linearity; special network design (a unique combination of 12dB/oct and derived m-type filters) avoiding phase shifts; and in-line arrangement of the drivers' acoustic centers, to ensure equal thru-air sound travel times. This linear phase feature is instrumental in achieving highest waveform fidelity and sharp, clear-cut imaging of sound sources in the acoustic field.

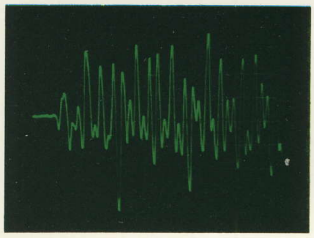
Terminals for Tri-Amping Provided

For tri-amping installations, direct access to the individual drivers has been provided.

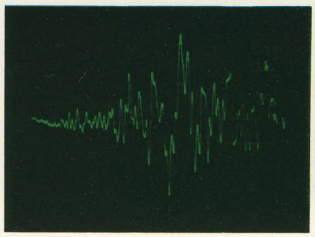
Bass Reflex Enclosure Improves Bass Response

In order to match the high efficiency of the mid and high range horns, the woofer has been given a bass reflex environment, increasing its effective sound pressure while avoiding any trace of "boominess." The wood grain finished cabinet with the attractive black grille will certainly enhance the visual appeal of your listening room.

Waveforms of musical instrument tones

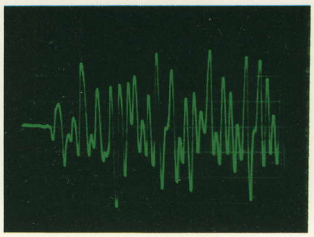


Violin

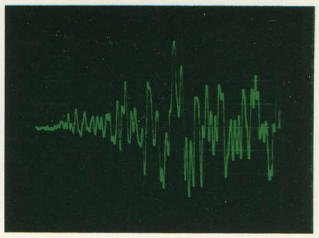


Piano

Waveforms as reproduced through SB-E100



Violin

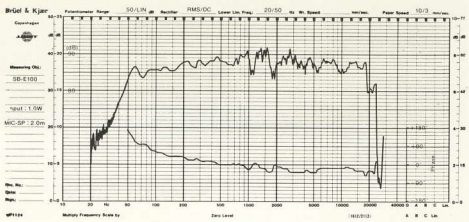


Piano

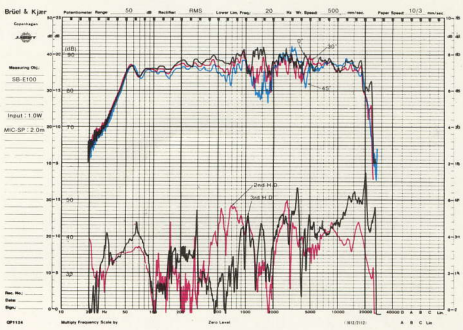
Technical Specifications

Configuration	3-way 3-speaker system
Speaker units	Woofer: 30 cm (12") cone type Midrange: Horn type Tweeter: Horn type
Impedance	8 ohms
Input power	150 W, music 100 W, DIN
Output level	95 dB/W (1.0 m)
Crossover frequencies	1,500 Hz, 6,500 Hz
Frequency range	37 Hz~22,000 Hz
Dimensions (W x H x D)	52.5 x 84.6 x 42.4 cm (20-5/8" x 33-1/4" x 16-5/8")
Weight	29 kg (63.9 lb.)

Sound Pressure and Phase Characteristics



Directional Dispersion and Harmonic Distortion



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