



HPM-100*

*Reg. U.S. Pat. Off.



Rich Concert Realism in a 50-Watt-Nominal, 4-way, 4-speaker Bass-Reflex System with Carbon Fiber Blended Woofer & High Polymer Supertweeter.

How does one begin to evaluate the performance of a brand-new speaker system? Much in the same way as we at Pioneer do — we listen. After the engineers and technicians were through with their prototype for the 4-way, 4-speaker HPM-100 system, all that was left was the listening. We gathered in the test room for its “debut.” From the impressive specifications and engineering innovations

like the Carbon Fiber Blended Woofer and High Polymer Supertweeter it incorporates we knew we could expect a “pretty good” sound. Needless to say, that turned out to be the understatement of the century!

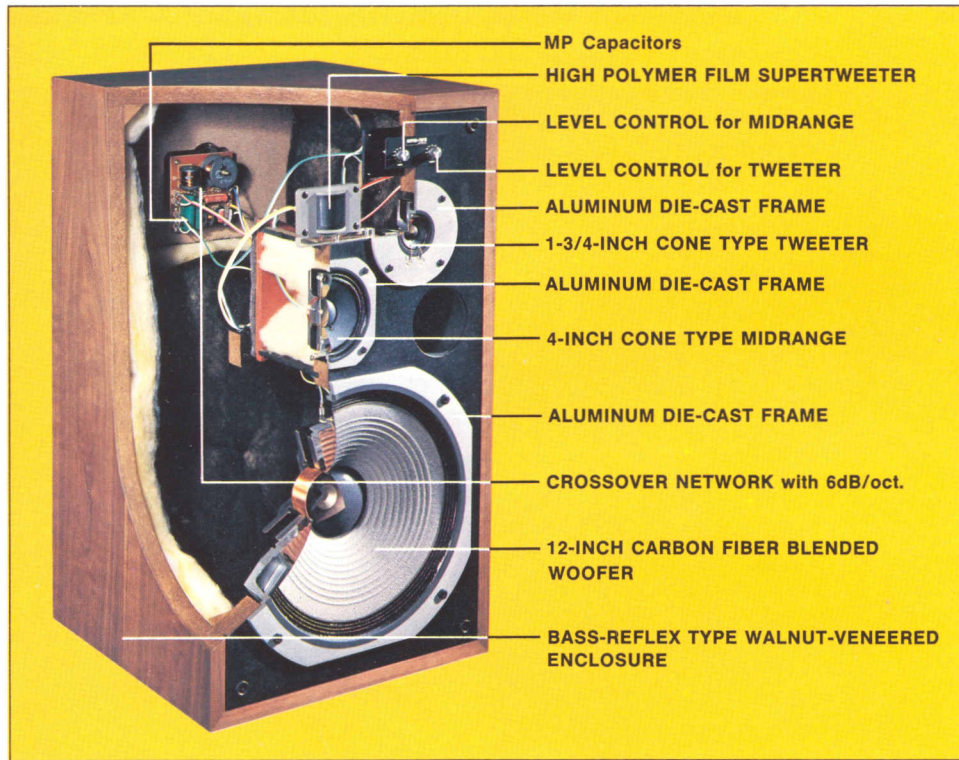
In the course of that amazing demonstration we all had to revise our standards of what rich sound realism can be. At the risk of being too subjective we must say that what we heard was

the truly realistic musical sound. Yes, the HPM-100 sounded that convincing. So, we urge you to hear it for yourself. After all, that’s the only way you can evaluate the performance of our brand-new HPM-100. A word of warning, however: be prepared to change your ideas about sound realism. The HPM-100 from Pioneer is that convincing.

*Walnut veneered cabinet.

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12-INCH (30cm) CARBON FIBER BLENDED WOOFER

Pioneer's success with our unique cone material called Carbon Fiber Blend is now well known throughout the high fidelity field, and the realistic sound of the HPM-100 owes much to its use in the 12-inch (30cm) woofer. Because the material is lighter in weight but more ideally rigid (having a high elasticity modulus) than comparable cone type materials it responds more truthfully to the low frequency impulses sent to the woofer. Further, the woofer cone is coated with a special resonance-damping compound to widen frequency range and smooth out response. The woofer's large 6-1/8-inch ϕ (156mm ϕ) magnet, pure copper ring to minimize the third harmonics in the midrange, its long voice coil and other features contribute to its ability to reproduce a convincingly real low frequency range without noticeable distortion.



4-WAY, 4-SPEAKER SYSTEM

Not only does the Pioneer HPM-100 have technically excellent physical properties, these properties are specifically designed to result in ideal musical reproduction in the ordinary listening room. Its four mutually complementing speaker units are designed so that the frequency range of each overlaps the others to assure smooth and natural tonal continuity from deep lows to tingling highs. Phase distortion — the kind of distortion that blurs stereo images — is eliminated by the ideally-positioned, high-quality drivers, and by the simple crossover network that achieves 6dB-per-octave attenuation.

NOMINAL POWER HANDLING: 50 WATTS

In keeping with current trends for high-power amps and receivers that permit wider dynamic range, the

HPM-100 handles a wide range of power up to 200 watts when the input signal is applied momentarily or for short duration. In a new, and logically easy to use way of stating power figures for the speaker systems, the HPM-100 has the nominal input power of 50 watts. It means that an amp or receiver with 50 watts of RMS power per channel is just about right for this rich and dynamic Pioneer system.

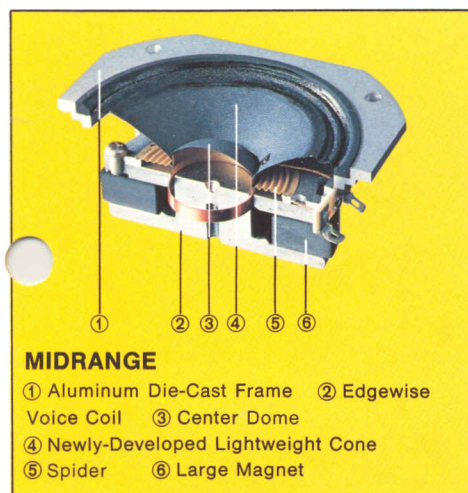
ALUMINUM DIE-CAST SPEAKER FRAMES

Unwanted resonance is expelled beyond the frequency range of each of the frame-mounted speaker units (woofer, midrange and tweeter) with the use of custom-made aluminum die-cast frames to strengthen and equalize the vibrations of each of the parts.

4-INCH (10cm) CONE MIDRANGE SPEAKER UNIT

Why not a larger midrange driver in a speaker system of this size? — because a larger one would upset the

precisely calculated directionality characteristics of the system as a whole. Besides, quality, not size, is the important factor here, since this unit must produce all the musical fundamentals found in most instruments, including the human voice. We use a large magnet, an edgewise voice coil, newly-developed light and rigid materials for the cone, and a special design to assure substantially improved acoustic power handling, sufficient sound pressure level and wide dynamic margin.

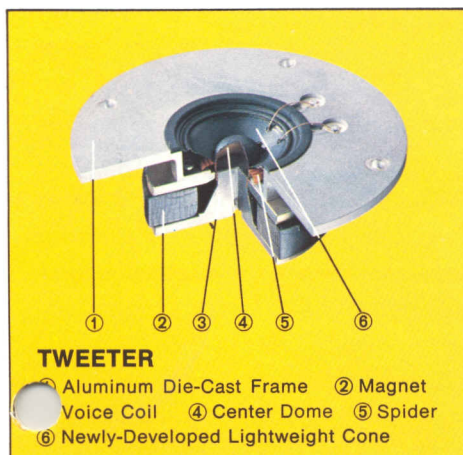


MIDRANGE

- ① Aluminum Die-Cast Frame
- ② Edgewise Voice Coil
- ③ Center Dome
- ④ Newly-Developed Lightweight Cone
- ⑤ Spider
- ⑥ Large Magnet

LIGHTWEIGHT CONE TWEETER

The voice coil, voice coil assembly and the cone in this carefully-crafted tweeter unit are bonded with an



TWEETER

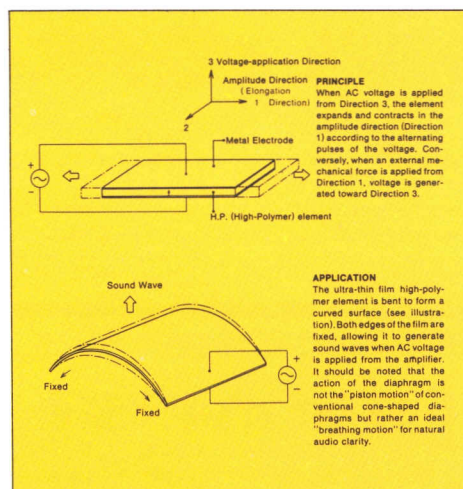
- ① Aluminum Die-Cast Frame
- ② Magnet Voice Coil
- ③ Center Dome
- ④ Spider
- ⑤ Spider
- ⑥ Newly-Developed Lightweight Cone

acoustically compatible epoxy resin to help increase the rigidity of the entire vibrating configuration. This contributes to a substantial improvement of the transient characteristics of the tweeter and accounts for its particularly clean and low-distortion performance.

HIGH POLYMER SUPERTWEETER

There are five outstanding advantages of this unique super-high-frequency driver unit which make it the ideal transducer to provide the final topping-off needed in realistic musical reproduction:

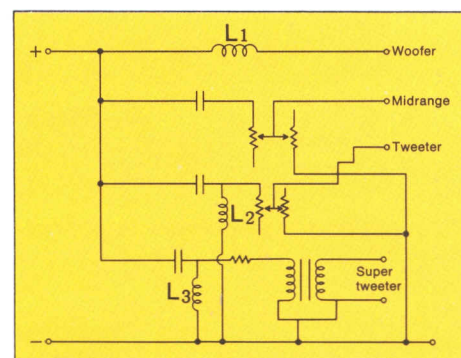
1. Its semicylindrical form covers a wide 180-degree range to end narrow beam tweeter directionality.
2. Its ultra-thin, high polymer film diaphragm vibrates in a "breathing motion" over its entire surface.



3. It is effectively damped by elastic materials to prevent the deterioration of its best characteristics and to end excessive harmonic distortion.
4. It has a high power handling capability, and,
5. Its sound is crisp, natural and clean.

CROSSOVER NETWORK

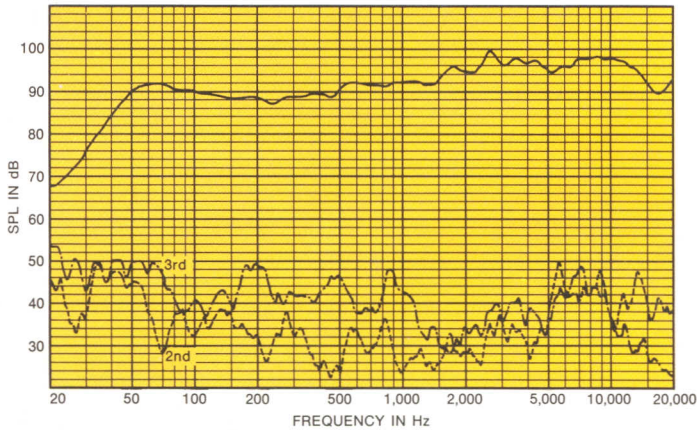
Since all speaker units employed in the Pioneer HPM-100 feature such excellent tonal characteristics, the crossover network used is a very simple one, with MP (metallized paper) capacitors and L₂ and L₃ operate more than 1 octave below the crossover frequencies of their respective drivers. Phase characteristics are thus preserved. Level controls for Mid and High units are provided on the front baffle.



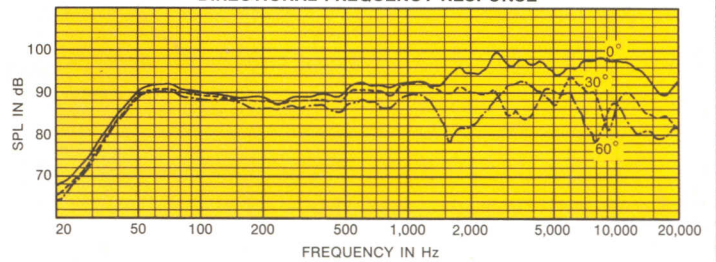
BASS-REFLEX TYPE WALNUT VENEERED ENCLOSURE

The handsome cabinet is covered in thick walnut veneer and fronted by a removable black fabric grille. The enclosure itself was designed with the assistance of computers in a scientifically determined structural assembly using a ported 1-1/4-inch (32mm) baffle board and 1-3/16-inch (30mm) chipboard sides, back and top/bottom boards for optimum rigidity and acoustical properties.

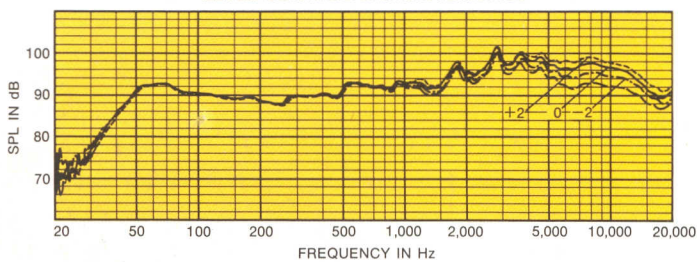
FREQUENCY RESPONSE/HARMONIC DISTORTION



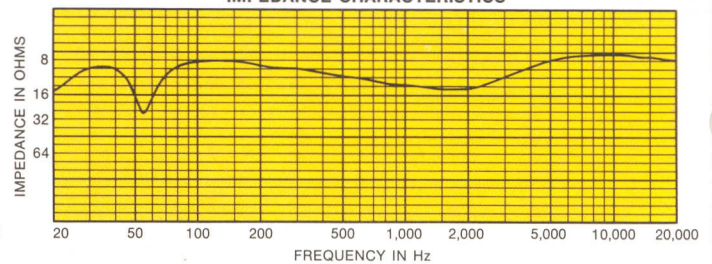
DIRECTIONAL FREQUENCY RESPONSE



LEVEL CONTROL CHARACTERISTICS



IMPEDANCE CHARACTERISTICS



HPM-100 SPECIFICATIONS

Enclosure:	Bass-reflex Bookshelf Type	Sensitivity:	92.5dB/W (at 1m distance)
Speakers:		Nominal Input Power:	50 watts
Woofer:	12-inch (30cm) carbon fiber blended cone type	Minimum Power Requirement:	10 watts
Midrange:	4-inch (10cm) cone type	Crossover Frequency:	1200Hz (Low-Mid) 4000Hz (Mid-High) 12000Hz (High-Superhigh)
Tweeter:	1-3/4-inch (4.5cm) cone type	Dimensions:	15-3/8(W) x 26-3/8(H) x 15-1/2(D) inches 390(W) x 670(H) x 393(D) mm
Supertweeter:	High Polymer Film	Weight:	58 lb. 14 oz. / 26.7kg
Impedance:	8 ohms		
Frequency Range:	30 to 25,000Hz		

Amplifier Power Range: 50 watts to 200 watts (recommended)

IMPORTANT: Nominal Input Power means the power which has been tested and passed with application of continuous musical input of specified wattage. System is engineered to accept momentary peaks of higher wattage, and to ensure optimum transient reproduction the connected amplifier is

preferably between the range mentioned above. However, the amplifier should not be overdriven to its clipping level if RMS power of the amplifier is higher than the Nominal Input Power of this system.

NOTE: Specifications and design subject to possible modification without notice.



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