

FISHER RADIO SOUND PANEL SPEAKERS

Is it Art or a Speaker?



A Fisher Brochure

In the early 1970's Fisher Radio, known since the early 1950's for high end audio equipment marketed a line of speakers that were called Fisher Sound Panels (FSP). The FSP was not your traditional "box" shaped speaker but instead it was in the form of a picture frame measuring approximately 29 ¾" x 23 ¾" x 2 7/8". The speakers were either mounted on a wall and hung like a picture frame or had optional floor stands for a more traditional look. Sometimes they were hung from ceilings.

The speaker is similar to what are sometimes called planar speakers and are similar to the popular Magnepan speakers which measure up to 6 feet in height.

The FSP speaker was actually made in Argentina for Fisher by Bertagni Electroacoustic Systems (BES). BES is a well-known speaker company and they

manufactured other sound panel speakers for Planex and even Philips.

HOW DO THEY WORK?

According to a Fisher brochure:

"Electrical energy (audio signals) is converted into vibrations, transmitted by a striking or hammering action, from the driver, through and across a high density acoustical polymer diaphragm.

A 1972 Retail Ad

Technically, the audio signals are fed into a dividing network, which channels the proper signal to either the high frequency or low frequency driver. The drivers used in the Fisher Sound Panels have large barium-ferrite magnets and multi-layer voice coils which are wound with high temperature magnet wire to insure dimensional stability, long life and reliable operation.

Each voice coil is bonded to a "hammer" which is coupled to the polymer diaphragm.



Fisher PL-6-W "Zebra" Front



Fisher PL-6-W "Zebra" rear



Fisher PL-6-B "Horses and Hounds"

Another description from the September 1974 issue of Popular Mechanics states:

"Fisher Sound Panel uses flat plastic diaphragm driven by conventional magnet and voice coil, with second driver for stiffened tweeter section. Thin as a picture frame (2 7/8"), it comes with a picture on its front"

The August 1973 issue of Popular Electronics magazine had a Hirsch-Houck

Labs Report on the FSP.

The lab report says:

"Most "thin-profile" speakers in the past have consisted of arrays of small cone drivers housed in a shallow enclosure. The PL-6 on the other hand, has a large polystyrene radiating surface that measures roughly 22 in. by 17 in. Most of this area is the "woofer," driven at its center by a 1 in. voice coil in the field of a 2.64 pound ferrite magnet. The voice coil is coupled to the diaphragm through a compliant cement, the one driving the other by what Fisher terms "hammering" action."



Fisher PL-6-W "Zebra" Label

HOW THEY WERE MARKETED

The November 11, 1972 issue in Billboard magazine, published an article titled "Décor Speakers By Fisher".

The article announced that Fisher has introduced a line of decorative speakers geared to the décor conscious householder and can be hung on the wall like a picture, used on the floor like screen, or even suspended from the ceiling.

The article further says:

"The unit utilizes a patented process that features full frequency sound radiating 360 degrees from an acoustical polymer surface, similar to the method employed by many musical instruments.

The frequency range is 40Hz to 18,000Hz. Power handling capacity is 25 watts RMS continuous, and 50 watts music power. The unit carries a price tag of \$138, and has been extensively test-marketed in Miami, St. Louis, Denver and Minneapolis."



Fisher PL-6-A "Huntsman"

The Fisher brochure on the FSP also describes a "Multitude of Decorator Possibilities" and shows photographs of the speakers mounted on the floor stands on either side of a fireplace, a matching pair hanging on a wall above a sofa "where everyone can see and admire them", and shows how the speakers can be wall mounted either horizontally or vertically. The marketing pitch was "Fisher Sound Panels - unobtrusive - yet decorative."

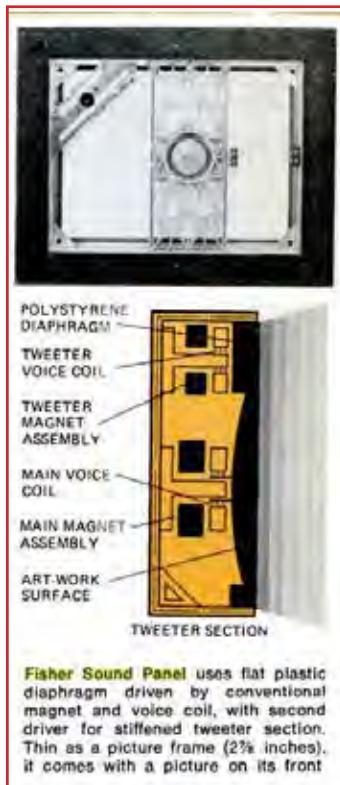
According to the Hirsch-Houck Labs Report, the FSP will be available in a choice of 4 abstract and four rustic scenes.

MANUFACTURERS AND MODEL NUMBERS

As stated earlier in the article, BES made the sound panels for different companies and used slightly different model numbers for the same speaker depending upon the company. The model name referred to the scene in the picture.

Fisher Sound Panels:

PL-6-A: This model was called Huntsman
PL-6-B: This model was called Horses and Hounds
PL-6-C: Unknown
PL-6-D: This model was called Woodland Watch
PL-6-W: This model was called Zebra



Fisher Sound Panel uses flat plastic diaphragm driven by conventional magnet and voice coil, with second driver for stiffened tweeter section. Thin as a picture frame (2½ inches), it comes with a picture on its front

Popular Mechanics September 1974

Planex Sound Panels:

PL-3: The artwork was a typical neutral light brown solid color
PL-5-R: This model was called Swirls
PL-5-S: This model was called Geometrics
PL-5-U: Unknown name but same as Philips SM-130
PL-5-W: This model is the same as the Fisher PL-6-W Zebra model

Philips:

SM-130: Unknown name but same as Planex
PL-5-U

This is not a complete list but if you know of any other models please let us know and we can add to the list of models.

Depending upon the country of sale, the

name of the speaker might be different. I saw a photograph of a FSP being sold in Europe with the label PL-6-C. In this case it was the same picture as the PL-6-A "Huntsman" but the label said it was "Stag Hunt".

The abstract models could easily be mounted horizontally or vertically but the rustic scenic models could only be mounted only horizontally or vertically depending upon the scene. Yet I saw a photograph of the Huntsman in both formats.

This speaker reminds me of when radios were first introduced into the home during the late 1920's and 1930's and how the manufacturers wanted to hide the radios inside decorative furniture.

The reviews of it were mixed. As with any speaker the reviewer has to deal with the type of music being played to the type of wall the speaker is mounted on and distance from the wall if floor mounted.

FISHER MODEL PL - 6 SOUND PANEL SPEAKER (A Hirsch-Houck Labs Report)

Seldom is it claimed that a simple "box" loudspeaker is an attractive piece of furniture. Even the compact "bookshelf" speaker system can sometimes be difficult to fit into a given room's décor. The problem is more severe in a quadraphonic setup where four speaker systems are required – a situation that has deterred many people from converting to 4 channel stereo.

Fisher Radio is now marketing a new



Planex PL-5-R "Swirls"

loudspeaker that is specifically directed toward solving the speaker-versus-décor dilemma. Externally, their Model PL-6 Sound Panel resembles a picture, framed in mahogany, and measuring 29 3/4 in. by 23 3/4 in. by 2 7/8 in. Covering the driver elements is a fabric "grille" that is available in a choice of four abstract and four rustic scenes. The overall effect is that of a painting or lithograph. And because the Sound Panel weighs only 21 pounds, it can easily be wall hung.

Alternatively, it can be built into a room divider or custom cabinet or used as a free-standing floor speaker system on the wood feet supplied with each unit.

Most "thin-profile" speakers in the past have consisted of arrays of small cone drivers housed in a shallow enclosure. The PL-6, on the other hand, has large polystyrene radiating surface that measures roughly 22 in. by 17 in. Most of this area is the "woofer," driven at its center by a 1 in. voice coil in the field of a 2.64 pound ferrite magnet. The voice coil is coupled to the diaphragm through a compliant cement, the one driving the other by what Fisher terms "hammering" action.

In one corner of the PL-6 is a separate high-frequency driver whose voice coil and magnet are the same size as those used for the woofer. The "tweeter" drives a small section of the flat diaphragm, the diaphragm being elastically decoupled from the main area that makes up the woofer surface. The thickness of the polystyrene diaphragm tapers from maximum at the center to very thin around the edges. The tweeter voice coil is driven through a capacitor that isolates it from the low-frequency signals, but the acoustic crossover is essentially due to the mechanical design of the structure.

Nominally rated at 8 ohms, the speaker system is much more efficient than acoustic-suspension speakers and can be driven to loud listening levels by amplifiers rated at from 5 watts to 10 watts output. It can handle maximum power inputs of 25 watts continuous or 50 watts of program material.

Fisher claims omnidirectional performance from the PL-6 portion of the rear of the speaker is open behind each driver so that in a free-standing installation, the radiation pattern is roughly the figure-eight shape of a dipole source. Although there is no radiation at 90 degrees to the speaker plane, the reflection of the rear radiation from the walls gives the PL-6 better overall dispersion than most conventional speaker systems. Of course, handing the PL-6 on a wall eliminates most of the rear radiation and results in a more usual polar response with a reduction in bass output.

The retail price of the Fisher Model PL-6 Sound Panel speaker system is \$138.

Laboratory Measurements. We tested the PL-6 in a free standing floor - positioned mode where it was several feet from a wall. Except for a 5-dB peak centered at 450 Hz, the low-frequency output was quite uniform (+/-2db) from 60 Hz to 1000 Hz. The average level of the higher frequencies was about 3 dB lower, with minor irregularities and overall response of +/- 3 dB from 1000 Hz to 13,000 Hz.

The low-frequency distortion was less the 3 percent down to 50 Hz. It rose to 5 percent at 45 Hz and to 10 percent at 40 Hz. There was little difference in distortion whether we used a constant 1 watt drive level or a constant 90 dB SPL output at a 3 foot distance from the speaker.

The impedance averaged 8 ohms, varying from 7 ohms to 10 ohms over most of the audio range (except for a rise to 30 ohms at the bass resonance of 66 Hz). Unlike most other speaker impedance curves, which are smooth except for one or two major resonance peaks, that of the PL-6 had many small irregularities at low and middle frequencies and a couple at the high

end. These suggest the existence of a number of minor resonances, a situation not unexpected in a large flat radiator such as that used in this speaker system.

The tone-burst response was good at low frequencies but was irregular at middle and high frequencies. As claimed, the PL-6 efficiency was high, requiring only 30 mW to drive the output to a 90 dB SPL. This is about 6 – 12 dB more efficient than most speaker systems we have tested.

User Comments. Our first impression on hearing the PL-6 was of a projected sound in the midrange and a moderate deficiency of highs. To a considerable extent, the response of the system can be "tailored" with tone controls (or even better, by a multi-band equalizer) to have a more balanced character. A moderate treble boost and a little bass cut make a worthwhile improvement.

After only a short listening period, the coloration of the system became much less obvious, to the point where we were able to ignore it and simply listen to the total effect. It is a very pleasant and listenable speaker system that merely requires some getting used to since it sounds quite different from most comparably priced speaker systems.

The PL-6 has two very big pluses: One is that it is very efficient when compared with conventional speaker systems. The other is its very compact shape and decorator styling – a decided advantage in both 2 and 4 channel systems.

Originally published in the August 1973 issue of Popular Electronics.

Philips SM-130

