

the INFINITY WAVE TRANSMISSION LINE COLUMN



BETTER
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The Infinity Wave Transmission Line Column represents the amalgamation of Infinity speaker technology developed over the past ten years. It epitomizes the most current speaker philosophies of the 1970's through a combination of high efficiency and reliability while clinging to the stringent Infinity philosophy of *accurate* sound reproduction.

The key to the Infinity Wave Transmission Line Column (WTLC) is the development of the dual driver staggered resonance transmission line. This configuration allows the bass frequencies to be higher in efficiency (for a given enclosure size) than conventional designs yet retains our traditional smoothness and uniformity of response.

This bass system concept, coupled to our phenomenal wave transmission line tweeter, all housed in a beautiful columnar enclosure, represents a true breakthrough in the elusive performance per dollar concept.

THE BASS AND LOWER MIDRANGE SECTION:

The Infinity Column utilizes two specially designed eight inch woofers. As in our famous Monitor speaker, these woofers employ the exciting new magnetic system patented under U.S. Patent No. 3478289.

The lower woofer, or "sub-woofer," is located at the bottom of the enclosure and is slot loaded to the floor through the pedestal part of the column (see Fig. 1). Its moving system has three times the mass of the upper woofer and is its own low pass filter. This lower woofer is the basic mechanism which governs lowest frequency propagation in the room.

The upper woofer has an extraordinarily light moving system which allows excellent propagation of midrange in the room at the listening level (see Fig. 1). Uniquely, both woofers act together through the active transmission line to yield high efficiency with exceptional dynamics and delineation in the bass frequencies. We call this phenomenon the "dual driver staggered resonance transmission line."



THE UPPER MIDRANGE SECTION:

We have chosen to implement the upper midrange section of the Infinity Column (2000 Hz to 8000 Hz) with the front and rear configuration initially introduced on the Infinity 1001. Two exceptional tweeters are utilized for this purpose: the front, or transient tweeter, and the rear, or ambient tweeter.

The direct radiation with its transient information to add sharpness and clarity to the sound is emanated from the transient tweeter. The ambient tweeter adds the complete dispersion of the mid-high frequency radiation to re-create the true instrumental timbre in space. The two tweeters are then coupled together through a phasing network which best synergises phase at crossover to the wave transmission line tweeter for frequencies about 8 KHz.

THE TWEETER SECTION:

The wave transmission line tweeter is probably Infinity's most stunning achievement. It is not a cone or piston drive, not an electrostatic, not a ribbon and not an ionic device. In fact, it really doesn't appear in any textbooks on acoustics.

This Walsh tweeter, acting as a vertical, pulsating cylinder, is a purely coherent source of sound radiation — directly analogous to the light emitted by a laser beam. It therefore is transient perfect — a feat which no other speaker has achieved.

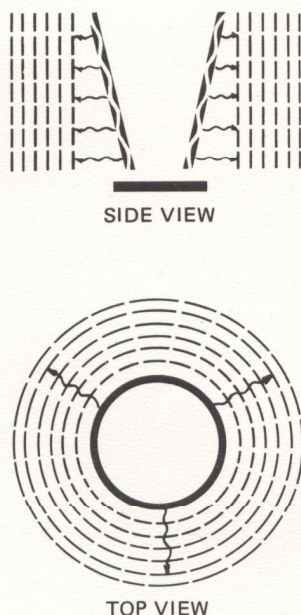
The drive mechanism of the tweeter is a voice coil in a very intense magnetic field. This drive mechanism was selected for its simplicity and inherent reliability, although any drive system could be used inasmuch as the cone is only plucked at the base. Sound velocities much higher than the

speed of sound in air are propagated up the metallic cone. Sound is emitted on various parts of the cone corresponding to the temporal and spatial scheme, as shown in Figure 1. Thus, each bit of audio information fed into the device is emitted intact at the same instant of time. This is true around the entire device, so that 360° coherent radiation is a reality.

Frequency response of the tweeter is virtually unlimited as the mass per unit area is lighter than air to beyond 30 KHz. Additionally, the voice coil inductance is shorted out in the driver at high frequency so that no premature high frequency rolloff occurs.

This new WTLT tweeter was developed and manufactured by Infinity under license from Ohm Acoustics, and is a newly-engineered extension of the Walsh Patent No. 3424873.

FIGURE 1



SPECIFICATIONS

Frequency Response:

35 Hz to 28 KHz ± 4 db

Crossover Frequencies:

500 Hz (mechanical),
2000 Hz, 8000 Hz

Nominal Impedance:

6 ohms

Maximum Amplifier Power:

200 watts per channel program

Minimum Amplifier Power:

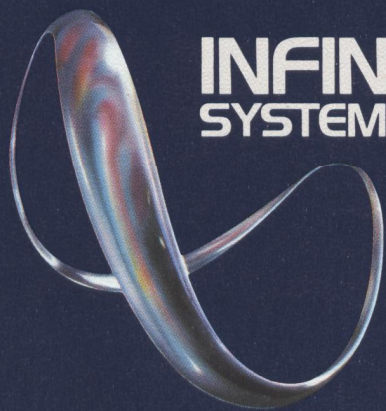
20 watts per channel RMS

Wave Transmission Line Tweeter Dispersion:

3 steradians above 8 KHz

Dimensions:

41" high, 11" wide, 11" deep



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