

SOUND LASERS

Professional loudspeaker systems that utilize concepts analogous to laser operation. They are as far advanced over ordinary loudspeakers as lasers are over light bulbs...

Sound Lasers control coupling of diaphragms to free air, to benefits start at every power level. Dispersion becomes r Typically, Sound Lasers are smaller, lighter and simpler th More than two thousand Sound Lasers components have b club PAs, stage monitors, disco systems, studio monitors, churches across the continent. Now they're becoming availa

ugh broad-band resonance in an air column or chamber. The s uniform — side to side, front to back, at all frequencies. conventional loudspeaker systems, and no more expensive. sold in the United States. They're used in concert systems, sical instrument amplifiers, background music systems and throughout the United Kingdom.

1000wt system

1. Broad-band resonance a flat Q to eliminate harmonic distortion.
2. Every frequency radiates from its own point along the slot — goodbye inter-modulation distortion.
3. Sheet-wave sound radiation is not subject to the inverse-square law — far less sound fall-off with distance.
4. Sound is in phase with itself throughout the listening area — essential for natural reproduction.
5. A quarter-wave resonator — smaller than horns, louder than direct radiators.
6. Uniform energy release along the full slot length — no mouth reflections to tilt the acoustic impedance and frequency response curves.
7. Inherent wide-span frequency coverage — fewer crossovers in multi-way systems.
8. Horizontal dispersion is controlled entirely by cross-section shape — no beaming at high frequencies.

United States patents protect Sound Lasers, additional U.S. and International patents applied for.

Built under licence for the Transylvania Power Company of America by- **TECH**

THE TUBE..



Product

The Tube is a direct replacement for all H.F. units that operate between 800 Hz and 25000 Hz (Depending on the Driver used).

Principles

Unlike Horns, the Tube projects sound by inducing resonance in its semi enclosed air column. The tube's tapered slot allows an infinite number of frequencies (each with its own point of emission along the length) to be radiated all at the same time.

Radiation

Acoustic radiation is from a series of lines, rather than from an area, as each frequency has its own radiating location along the slot, this creates a fixed height sound pattern: beyond the first few yards the vertical coverage does not expand with distance. The inverse square law will not apply under these conditions sound levels will be inversely proportional to the distance itself rather than the distance squared i.e. doubling a listeners distance from a horn will cut his sound level to a $\frac{1}{4}$ of what it had been, the same experiment with the tube would only halve the level.

Horizontal Pattern

Moving away from axis, the coverage pattern

order of a dB per degree occurs thereafter). The pattern does not vary with frequency unlike horns of even the multicellular and sectoral types.

Vertical Pattern

Sound radiates from the Tube in a flat sheet. While friction carries the wave motion to the immediately adjacent layers of air molecules, which then repeat the transfer and so on, there is of course an amplitude reduction in each transfer, and all of the excited air layers move parallel to the original sheet. This means that beyond 20' or so from the tube expansion of the vertical coverage height will virtually cease.

Summary

As previously stated the Tube performs in a totally different way to ordinary H.F. reproduction systems. It cannot be measured and specified in terms normally used by audio professionals. As an example the Tubes advances in transient response cannot be precisely stated because the audio profession has never recognised a standard for evaluating speaker transient response. In short the Tube is a revolution in H.F. reproduction. It is not some kind of horn, it does not use area loading, it is not a re-working of standard loudspeaker principles.

THE KHYBOE SOUND LASER BASS ENCLOSURE ..

Product

The Khyboe is a new mathematical approach to the problem of matching the acoustical impedance of a loudspeaker to the acoustical imp. of the medium into which it radiates its power.

Principles

Complete acoustic loading of the speaker cone is inherent with the Khyboe. This factor escalates speaker efficiency and virtually eliminates cone distortion at any power level. The device is basically a mathematical variation of a standard horn but without having to contend with the size.

Sound Quality

The coupling principle controls cone motion to eliminate cone distortion, but unlike a horn it adds no distortion of its own. The result is unparalleled clarity, especially in sound textures, and relief from long term listening fatigue. Most important, the sound remains distortionless at any power level. Frequency coloration is not present.

Volume Levels

The superior acoustical loading provided by the Khyboe produces efficiency many times greater than that of direct radiator systems, and even substantially more than with horn loading. Through loading uniformity and efficiency the cone excursion and voice coil heat, respectively are dissipated to exceptional minimums. These advances allow any given driving speaker to successfully handle far more power input than otherwise possible. All these factors together with immunity to high volume distortion, mean that, in terms of useful sound output, the difference between the Khyboe and conventional speaker systems is measured in orders of magnitude.

Summary

The Khyboe becomes an extension of the speaker (not simply a housing unit) the mathematically formulated frontage handles the range of frequencies evenly without distortion.

The compact size of the Khyboe in relation to its performance is truly remarkable when compared with ordinary speaker enclosures which tend to be large and bulky.

It maximises the power handling and efficiency any chassis speaker unit without colorization.

These listed factors make conventional speaker systems obsolete in terms of efficiency, distortion levels, size and power handling.

