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Horn Loudspeaker

The horn loudspeaker is derived from gramophones. In 1928, Wente and Thuras produced their high-efficiency receivers of horn loudspeaker. Horn loudspeaker is made on the basis of diaphragm pushing the air at the bottom in that acoustic resistance is big enough to increase the efficiency. However, it is not easy to replay the low frequency because both the horn's shape and length affect musical quality. Nowadays, highly efficient horns are mainly applied to professional acoustic irradiation fields.

Magnetic circuit system using high quality neodymium magnet with good performance. It improves the conversion efficiency and sound pressure level. Our horn loudspeakers have strong output, penetrating power, and far transmitting range. It's waterproof and dustproof. Use in public alarm system as terminal amplifying.

Parameters of Horn Loudspeaker TC-12AT
Rated Power: 100W Rms.
Impedance: 8 or 16 Ohm
S.P.L.(1W/M): 110 dB
Frequency Response: 150-5000Hz
Horn Material: Aluminum or ABS

A horn loudspeaker is a complete loudspeaker which uses a horn to increase the overall efficiency of the driving element, typically a diaphragm driven by an electromagnet. The horn loudspeaker itself is a passive component and does not amplify the sound from the driving element as such, but rather improves the coupling efficiency between the speaker driver and the air. The horn loudspeaker can be thought of as an "acoustic transformer"

that provides impedance matching between the relatively dense diaphragm material and the air of low density. The result is greater acoustic output from a given driver.

The horn loudspeakers have been used to extend the low frequency limit of a speaker driver—when mated to a horn, a speaker driver is able to reproduce lower tones more strongly. The flare rate and the mouth size determine the low frequency limit. The throat size is more of a design choice.

Horn loudspeaker has been used to modify the directional characteristics of the produced sound waves. Horizontal coverage angle is the primary determinant of horn width, and vertical coverage angle determines horn height. On- and off-axis performance will differ depending on the shape of the horn. Compromises in performance such as distortions of the wave front must be balanced against the design goal.

Operation of Horn Loudspeaker

Acoustic horns convert large pressure variations with a small displacement area into a low pressure variation with a large displacement area and vice versa. It does this through the gradual, often exponential increase of the cross sectional area of the horn loudspeaker. The small cross-sectional area of the throat restricts the passage of air thus presenting high impedance to the driver. This allows the driver to develop a high pressure for a given displacement. Therefore the sound waves at the throat are of high pressure and low displacement. The tapered shape of the horn allows the sound waves to gradually decompress and increase in displacement until they reach the mouth where they are of a low pressure but large displacement.

ZhenYu electric is a professional manufacturer and producer of horn loudspeaker. We have accumulated a wide range of clients and experience over the 15 years of our business. Our horn loudspeakers have already been exported to Europe, South America, Middle East, Southeast Asia, and Africa. We have clients in Mexico, Thailand, Russia, Algeria, Philippines, Kazakhstan, Iran, Saudi Arabia, Nigeria, Singapore, Indonesia, Malaysia, The United Arab Emirates, South Africa, Australia, Brazil, and Sudan. High quality products and reasonable pricing is the pillar for us to gain the clients' recognition continually. At the same time, we keep researching and developing horn loudspeakers more adaptable to the market demands to gain the recognition of more clients. We can also manufacture the products according to the clients' needs.

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