**Speaker system performance indicators**

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Speaker system performance indicators

First, the frequency response (effective frequency range)

This indicator reflects the main frequency range in which the speaker works.

When a constant voltage source is applied to the speaker and the source frequency is changed from low frequency to high frequency, the sound pressure generated by the speaker will vary with frequency. The resulting sound pressure-frequency curve is the frequency response curve of the loudspeaker. IEC (International Electrotechnical Commission)

The frequency limit of the sound that can be reproduced by the speaker, that is, the effective frequency range, is a frequency range in which the average sound pressure level of one octave near the peak is reduced by 10 dB in the sound pressure frequency characteristic curve of the speaker. The wider the range, the better the sound reproduction characteristics

Generally, the minimum required frequency response of the high-fidelity speaker box is 50-12500HZ (+4~-8dB), and it is enough to reach 50-16000Hz. Of course, 30-20000Hz is better.

Second, the rated impedance

It refers to the impedance value measured at the input of the loudspeaker at a particular operating frequency (intermediate frequency). Usually indicated on the product nameplate, given by the manufacturer. The impedance characteristics of the speaker. The rated impedance given by the manufacturer is usually expected to be the most in the rated frequency range.

The impedance modulus of great work. The rated impedance is generally specified as 4 ohms, 8 ohms, 16 ohms, 32 ohms, etc., and 3 ohms and 6 ohms are also used abroad.

Third, power

The power level of the speaker is one of the important indicators for choosing to use the speaker. It should be pointed out that the standard method of the domestic and foreign speakers is very different, because the definition of the power is different. The nominal power of a typical loudspeaker is rated power.

Rated power or rated noise power is the input power when the speaker can work continuously for a long time without generating abnormal noise. In general, the pink noise signal is used for testing, and the specific filter is used to test within the rated frequency range. According to IEC standards, the measured sound

The device should ensure that no abnormalities occur during 100 hours of continuous operation. Incidentally, the US EIA standard stipulates that the test time is 8 hours and the filters are different.

The maximum noise power is different from the rated power. It is the ability to indicate that the speaker is subjected to a large input power for a short period of time. The test time is only a few seconds or a few minutes. Generally, the maximum noise power is 2-4 times the rated power.

Fourth, sensitivity

The characteristic sensitivity is the sound pressure level measured at 1 m in the axial direction when the speaker is applied with a pink noise signal voltage equivalent to 1 W of the rated impedance. The sensitivity and efficiency of the speaker box are two different concepts. The efficiency is the ratio of the output sound power to the input power, but generally

It is said that the speaker box with high sensitivity is also more efficient.