**Teach you the tips and tricks of the public broadcasting system design and installation**

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As a system, public broadcasting must comprehensively consider the influence of various factors on the system. Therefore, on the basis of selecting electro-acoustic equipment with excellent performance, through careful system design, careful system debugging and good sound-building conditions, it is possible to achieve sound and natural sound effects. The following is a small series of tips for the design and installation of public address systems and emergency broadcast systems. Let's share with you:

Public Broadcasting System Design Tips:

(1) Transmission mode: The output power feeding mode of the system adopts cable broadcast transmission mode.

(2) Line attenuation requirements: In the public address system, the line attenuation from the output of the power amplifier equipment to the farthest user speaker on the line should meet the following requirements:

· Service broadcast should not exceed 2 decibels (at 1 kHz)

· Service broadcast should not exceed 1 decibel (at 1 kHz)

(3) Feed line with constant voltage output, the output voltage is 70V or 100V.

(4) Calculation method of power amplifier capacity:

The calculation method of the commercial broadcast system and the commercial broadcast system: P=K1×K2×ΣPo: P--power amplifier output total electric power (W);

Po--Ki×Pi, the maximum electric power (W) when each sub-channel is broadcast simultaneously;

Pi--the rated capacity of the user equipment of the i-th branch;

Ki--the ith branch requires a coefficient at the same time;

In the case of service broadcasting, each set of Ki in the room program is 0.2-0.4;

The background music program Ki takes 0.7-0.8K1--line attenuation compensation coefficient: 1.26 when the line attenuation is 1dB;

When the line attenuation is 2dB, take 1.58;

K2--aging coefficient, generally taking 1.2-1.4;

· Calculation method of fire accident broadcast system: There are two ways to calculate the system:

a. The power amplifier capacity is determined by 1.3 times the total number of speakers in the system.

b. The power amplifier capacity is determined by 1.5 times the total number of the largest 3-layer speakers in the system.

(5) Backup of power amplifier

The power amplifier of the public address system should be equipped with a backup power amplifier that can be used automatically or manually when the operating power amplifier fails. Power amplifiers for important broadcasts (such as power amplifiers for fire accident broadcasts) should have their standby power amplifiers ready for immediate use in the event of a malfunction of the operating amplifier. The number of spare power amplifiers should be determined based on the capacity of the important broadcast load.

(6) Speaker settings

? Set up a 3W speaker box in the office, living room, locker room, etc.

· Floor corridors generally use ceiling-mounted speakers, and the spacing of the speakers is considered to be about 2.5 times the height of the floor (the height of the ceiling). Choose 3-5W ceiling speaker.

· 3-6W speaker box should be installed in the entrance hall, general meeting room, restaurant, shopping mall, entertainment place, etc.

· 1W-2W speaker is used in the bedside control cabinet.

· In the case of building decoration and room height allowance, sound column or combination speaker should be used for large space.

? When setting up the speaker in a noisy, humid place, use a horn speaker. The sound pressure level of the horn loudspeaker selected in a place with high noise should be 10-15 dB greater than the ambient noise.

(7) Power supply requirements for broadcasting systems

· The small-capacity broadcasting station can be directly powered by the socket; when the capacity is above 500W, the broadcast control room is set, and the power supply can be supplied by the nearest power controller dedicated line.

· The AC voltage offset value should not be greater than +10%. When the voltage offset cannot meet the requirements of the equipment, an automatic voltage regulator should be installed near the equipment.

· The AC power supply capacity for broadcasting is generally 1.5-2 times the AC power consumption capacity of the final broadcast equipment.

· Fire accident broadcast equipment uses fire power.

(8) Selection of transmission cable

· The room service broadcast line should use copper core multi-core cable or copper core plastic stranded wire.

· Other broadcast lines should use copper core plastic stranded wire.

? Shielded lines should be used for various program signal lines.

· Fire-fighting accident broadcast lines should use flame-retardant copper core cable or fire-resistant copper core wire and cable.

(9) How to lay the line

·The line should be laid with steel pipe or wire trough, and it should not be laid in the same line as the lighting and power lines.

· Fire alarm protection measures should be taken for fire accident broadcast lines.