**OBT public address overview and background music**

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I. Overview of Public Broadcasting

The public address system is a branch of the sound reinforcement system, and the sound reinforcement system is also called the edge science of the three major disciplines of electroacoustic, sound and music. Therefore, the final effect of the public broadcasting system involves the reasonable and correct design and commissioning of the electroacoustic system, the best combination of the sound transmission environment (the sound construction condition) and the precise on-site tuning. The three complement each other.

As a system problem, public broadcasting must comprehensively consider the above issues in system design. On the basis of selecting the electro-acoustic equipment with good performance, through careful system design, careful system debugging and good sound-building conditions, the sound of the call is pleasant and natural.

Broadcast system classification:

The generalized broadcasting system consists of two major categories: sound reinforcement system and sound release system:

1. Sound reinforcement system: The speaker and the microphone are in the same sound field, and there are whistling, distortion and oscillation caused by acoustic feedback and room resonance. To ensure system stability and normal operation, the highest available system gain is 6 dB lower than the critical gain of the acoustic feedback self-excitation.

2, sound system: the system only the tape machine, CD player and other sound sources, no microphone, there is no acoustic feedback, the acoustic feedback coefficient is 0, is a special case of the broadcast system.

Public broadcasting systems can be divided into the following categories by purpose:

1) Outdoor broadcasting system The outdoor broadcasting system is mainly used for stadiums, stations, parks, art squares, music fountains, etc. It is characterized by a large service area and a wide space. The background noise is large; the sound propagation is mainly direct sound; the required sound pressure level is high. If there are reflective objects such as high-rise buildings around, the speaker layout is not reasonable, and the sound waves are repeatedly reflected to form a delay of more than 50ms, which will cause Double or multiple sounds, in case of serious echoes, affecting the clarity and sound image localization of the sound. The acoustics of outdoor systems are also affected by climatic conditions, wind direction and environmental disturbances.

2) Indoor Broadcasting System The indoor broadcasting system is the most widely used system, including various theaters, stadiums, dance halls and so on. Its professionalism is very strong. It can be used for non-verbal sound reinforcement and for various cultural performances. It has high requirements on sound quality. The system design should not only consider electro-acoustic technology problems, but also involve architectural acoustics. Factors such as the shape of the room have a greater impact on sound quality.

3) Public Broadcasting System The public broadcasting system provides background music and radio programs for hotels, commercial buildings, ports, airports, subways, and schools. In recent years, the public broadcasting system has also served as an emergency broadcast, which can be linked with the fire alarm system. The public broadcasting system has many control functions. Such as the selection area broadcast and full call broadcast function, mandatory power conversion function and priority broadcast right function. The speaker has a large load and is dispersed, and the transmission line is long. In order to reduce the transmission line loss, 70V or 100V constant voltage and high impedance transmission are generally adopted. Sound pressure requirements are not high, and the sound quality is dominated by midrange and mid-high.

4) Conference System With the increase of domestic and international exchanges, teleconferences, video conferences and digital conference systems (DCN) have developed rapidly in recent years. Conference systems are widely used in conference centers, hotels, groups, and government agencies. The conference system includes a conference discussion system, a voting system, a simultaneous interpretation system, and a video conference system. The audio and video (image) systems are required to be synchronized, and all computer controlled and stored conference materials are used.

Second, the characteristics of the broadcasting system

Background music is abbreviated as BGM, which is the abbreviation of Backgroundmusic. Its main function is to cover up the noise and create a relaxed and harmonious atmosphere. If the listener does not concentrate on listening, he can't distinguish the location of the sound source, the volume is small, it is a kind of creation. A relaxed and pleasant atmosphere of music. Therefore, there are two effects of background music. One is to cover up the environmental noise psychologically, and the other is to create an atmosphere that suits the indoor environment. It is widely used in hotels, hotels, restaurants, shopping malls, hospitals, office buildings and so on.

Third, the composition of the broadcast audio system

No matter which kind of broadcast sound system, it can be divided into four parts: program equipment, signal amplification processing equipment, transmission line and speaker system.

Program source equipment: The program source is usually provided by radio broadcasting, laser phonograph and recording deck, in addition to microphones and electronic musical instruments.

Signal amplifiers and processing equipment: including equalizers, preamplifiers, power amplifiers, and various controllers and audio processing equipment. The primary task of this part of the equipment is signal amplification, followed by signal selection. The mixer and preamplifier are similar in function and status (of course, the mixer has higher functions and performance indicators). Their basic functions are to complete the signal selection and preamplification, and also to adjust the volume and sound effects. And control. In order to better perform frequency equalization and timbre beautification, the graphic equalizer is also separately input. This part is the "control center" of the entire broadcast sound system. The power amplifier amplifies the signal from the preamplifier or the mixer, and then pushes the speaker through the transmission line.

Transmission line: Although the transmission line is simple, it has different requirements depending on the system and transmission method. For the auditorium, theater, etc., because the distance between the power amplifier and the speaker is not far, the direct feeding method of low resistance and large current is generally adopted, and the transmission line requires a dedicated speaker line. For the public broadcasting system, since the service area is wide and the distance is long, in order to reduce The loss caused by the transmission line often adopts a high-voltage transmission mode. Since the transmission current is small, the transmission line is not required to be high.

Speaker System: The speaker system requires the matching of the entire system, and the choice of its position is also realistic. The auditorium, the theater, the dance hall sounds, and the speakers generally use high-power speakers; and the public address system, because it is not high to the sound, generally use 3W-6W in the ceiling speaker is good.

Fourth, the public broadcasting engineering system design process

Public address system designs usually start with the sound field (ie where the speakers are placed) and then move back to the power amplifier, sound processing system, mixer, to the microphone and other sources. This step-by-step design step is very inevitable. Because the sound field design is the basis for meeting the system's functions and sound effects, it involves the selection of the speaker system, the sound solution and the signal path. Only by determining the speaker system can the power amplifier drive power calculation and the drive signal path be determined, and then the signal processing scheme and the selection of the mixer can be further determined according to the drive power allocation scheme.

V. User demand for public broadcasting:

Today, with the rapid development of technology, users are increasingly demanding new technology applications. It is more important to provide technology and new products that meet customer needs. In the traditional sense, public broadcasting systems can not meet the requirements of users and the growth of sales in many aspects. The same is true for factory public broadcasting. Digital public broadcasting microphones have become the mainstream of today's broadcasting development. Digital public broadcasting systems make full use of digital technology. The word makes the user's operation more intuitive and simple, the system configuration is more flexible, and the function is more powerful. Therefore, it is necessary to update the public address system into a digital system. It can solve the problem that the traditional public broadcasting system cannot solve in the past, more intuitively, more forcefully and more conveniently.

Sixth, public broadcasting equipment selection

Designing a good public address system should be carried out by a dedicated technician based on the building characteristics and the specific equipment selected by the investor. When selecting equipment, investors should use equipment with stable performance and long service life according to the funding situation. Through our understanding of public broadcasting products on the market, we analyze and compare various factors such as quality, price, after-sales service, and comprehensive strength of manufacturers. Based on low price, high quality and excellent after-sales service, we have selected the most suitable public broadcasting brand - OBT-PA public broadcasting products for customers.

Our selection principles are as follows:

1. Scientific, accurate and advanced system design:

When designing the public address system, ensure that the acoustic technical indicators of these venues meet the requirements specified in the bidding documents, so that the sound system design of each venue is scientific, accurate and advanced.

2. Systematic and practical to meet functional requirements:

In the public address system equipment configuration, we guarantee that the system should have the ability and level to complete the functions required by the project, meet the actual needs of the project and the requirements of relevant domestic regulations, and it is easy to implement and easy to operate.

The equipment selected by the public broadcasting system is advanced products of well-known foreign manufacturers. The equipment indicators meet the requirements, and have consistency and interchangeability, so that the system has good flexibility, compatibility, scalability and portability.

3. Equipment reliability and service guarantee:

We design the main equipment in the public broadcasting system are famous brand products. OBT-PA professional products have high reliability and excellent performance and have been successfully applied in domestic and highly praised. At the same time, OBT-PA professional products All the users in the country promise to enjoy 2 years of free warranty, and establish a comprehensive technical service network in all parts of the country to provide timely and effective services to customers.