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THE LOCATION OF MICROPHONES IN THEATRICAL PRODUCTIONS

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Abstract

The article examines key aspects of the sound design of theatrical performances, with an emphasis on optimizing microphone placement to achieve the best sound. The author analyzes various methods and technologies used to place microphones, including wireless systems and directional microphones, as well as their impact on sound quality and audience perception. The article includes examples of successful application of various approaches in well-known theaters, as well as recommendations on the choice of equipment and its settings depending on the acoustic conditions of the stage. The study highlights the importance of competent sound design as an integral part of theatrical art, which can significantly increase the level of professionalism and audience perception.

Keywords: *lavalier microphone, headset, microphone fixation, performance, sound reinforcement, head microphone*

In modern theatrical productions, individual sound reinforcement of actors' speech is found everywhere in both dramatic and musical performances. Of course, the use of individual microphones in comparison with the general sound gives a lot of convenience to both the actor and the sound engineer at the console. To the actor – freedom of movement on the stage, the direction and dynamics of the text presentation. For the sound engineer, it is possible to adjust each timbre individually, to build a more flexible monitoring and balance between the actors' voices, as well as their balance with the soundtrack or musical instruments according to the plan. As a rule, each actor who has any text in the role receives his own individual microphone with a radio transmitter number assigned to it. But if the number of microphones is less than the number of actors in need of sound reinforcement, the microphone can be outweighed by the microphone operator from one artist to another from stage to stage according to the score.

Individual microphones can be of two types: lavalier microphones, which came to the theater from television broadcasting,

and headsets, which differ from buttonholes by having a rigid headband frame. Headsets and lavalier microphones today are very miniature, can be of different colors and have many mounting methods, so visually their use becomes almost invisible to the audience. All characteristics are selected for a specific artist of a specific production.

Which type of individual sound reinforcement to use in a particular performance is decided by the sound engineer, relying on the pros and cons of each option. A headset is usually much closer to the sound source than a lavalier microphone, and therefore less susceptible to feedback. It is also more stable from flooding the microphone with sweat, because it is located at some distance from the face. But visually, the headset is much more striking to the audience and ruins the atmosphere of the action. For many directors, this can be a crucial moment. The buttonhole has a more hidden and inconspicuous placement on the artist, in addition, its position can be very diverse, so it is easy to find a microphone location that will suit the sound engineer and not interfere, for example, with makeup or costume.

When changing clothes quickly, a well-secured lavalier microphone does not interfere with the artist, unlike a headset, which is easy to touch. However, the buttonhole is more susceptible to perspiration, and it can also peel off during the performance. For the reasons described above, lavalier microphones are used much more often in the theater, but headsets are often resorted to, especially in those productions when the actor goes into the hall and plays in front of the portal speakers. There are also many artists who simply refuse to put microphones on their faces.

Both the headset and the lavalier microphone may have different directional patterns. Omnidirectional microphones are preferred in theaters. They have a more natural and uniform sound and with a slight shift, for example, if the buttonhole begins to peel off and look at the sound source from a slightly different angle, the difference in timbre will not be so noticeable by ear.

However, there are proponents of using cardioid microphones in the theater, because with their use, feedback and phase distortion are much less likely to occur with a large number of open microphones at the same time. But, as practice shows, it is much more effective to deal with these phenomena with the help of well-structured monitoring, prescribed in the show in the mixing console with the call of scenes and the technique of conducting the performance "line by line". In this case, each microphone opens only to the artists' lines immediately at the moment of their utterance.

Ways to attach a lavalier microphone and headset. There are several ways to attach a lavalier microphone to an artist used in theatrical productions. The first and least common is fixing the microphone with special fasteners–clothespins or pins on the suit at the collarbone level or slightly below.

Lavalier microphone attached to the costume: this method is used if, for one reason or another, it is not possible to fix the microphone on the artist's face. But this position of the lavalier microphone has several disadvantages.

The first of these is a significant change in the timbre of the voice when turning or tilting the head. With significant sound amplification, a constant change in the distance from the microphone to the sound source will be very noticeable by ear.

The second is the large amount of noise associated with the fact that in this position it is very easy to touch the microphone with any costume element, props, or even hair. Scenes in which actors have to actively interact with each other, dance, fight or hug, from the point of view of sound reinforcement become a real problem for the sound engineer.

Therefore, a more common way to attach a lavalier microphone in both dramatic and musical performances is to place it on the actor's cheekbone, above the cheek, so that the direction of the microphone's head is aimed at the corner of the mouth. This method gives a beautiful and natural amplification of the actor's speech, and the timbre does not change from the position of the head, because the microphone is in the same place relative to the sound source. Getting into the microphone noises associated with the fact that the actor can grab his face with his hands or just touch, remains possible, but still significantly reduced compared to the previous method.

If the actor is playing in a special nylon make-up cap, which is necessary for fixing

wigs, then special hairpins can be used to attach the wire behind the ear and at the back of the head, which fix the wire on this cap. This is convenient if the actor is sweating, which is why the tape attached to his ear often comes off.

When fixing the microphone on the cheekbone, it is also important to take into account the makeup and hairstyle of the artist. Various beards, mustaches, sideburns and hanging curls can touch the microphone's head, in which case the microphone operator will be forced to glue the microphone either a little closer to the mouth or a little further away. However, do not forget that the further away the microphone is from the sound source, the less high frequencies it perceives. To avoid this, almost all well-known companies that produce lavalier microphones include special interchangeable grills with a rise in the high frequency range. If the microphone is too close to the mouth, unwanted blowing and overly emphasized hissing and whistling consonants may occur.

Also, an important issue when fixing the microphone to the artist is the choice of the microphone mounting side. This choice occurs at the stage of the production process, that is, the preparation of the release of the play. It is influenced by several factors:

– which side of the actor is more often turned towards the viewer (in this case, only the visual component is affected);

– the presence of an artist's hairstyle or headdress with a veil, fringe and other accessories that may touch the head of the lavalier microphone;

– on which side of the actor are various reflective surfaces that can distort the timbre. Maybe in one of the scenes he's lying on his cheek;

– on which side of the actor are the other actors in close proximity, pronouncing any text. By hanging the microphone on the other side, we minimize the occurrence of phase distortion.

Considering all these points, the side of the lavalier microphone attachment is selected, but it does not have to be the same for the entire performance. The microphone can be glued from one side to the other, if required by the score. However, in order not to constantly re-glue the wire, you can use another common method of fastening – on the forehead. This method is most often practiced in musical performances and musicals, as it provides a beautiful and brighter reinforcement both in quiet dialogues and in loud singing. In addition, with this microphone position, the occurrence of various noises from acting is minimized. Another advantage of this method is that visually this method of fastening is the most invisible to the viewer.

Lavalier microphone fixed on the forehead: to secure the microphone in this way, as in other positions, you will need special tape and hairpins. If an actor works in a play without a wig, then first of all you need to make a parting in your hair, where the wire will be hidden and secure it with special hairpins. For secure fixation, it is best to use three hairpins: one of them is attached close to the forehead, the second is a little further on the crown, and the third is on the back of the head. In addition to the hairpins, the wire is fixed with tape next to the microphone head and around the neck. If an actor is playing a play in a wig, then the hairpins are attached to a nylon make-up cap in the same way. But it should be understood that if the microphone malfunctions, access to it will be complicated due to wearing a wig over the wire.

There are also cases that are difficult for sound amplification, where none of the above methods of attaching a microphone are suitable, for example, using masks that completely cover the face. If it is a permanent mask or it is on the actor for a long time, then the microphone is attached directly to it. If the masks change frequently and a large number of actors change, the microphone is attached to the ear.

To do this, you will first need to make a special holder, which will require an ordinary wire hanger, from which you need to cut the hook. This hook is adjusted to the size of the actor's ear, so that it sits quite tightly and does not fall off. The sharp edges of the hook are wrapped with duct tape so as not to scratch the artist's skin. The wire is fixed along the wire either with adhesive tape or special silicone nozzles. After the holder is put on the ear, it remains to secure the wire behind the ear and around the neck, as in the case of the buttonhole located on the cheek.

Regardless of the type of sound reinforcement you choose, it is important that the sound engineer adjusts the microphone levels and characteristics correctly. This includes creating individual profiles for each actor, ensuring an optimally balanced sound that meets both the nature of the production and the requirements of the auditorium.

Modern technologies also make it possible to work with digital processors and sound software, which opens up new horizons in the field of sound reinforcement. This allows you not only to improve the sound quality, but also to add various effects that can enhance the atmosphere of the performance, emphasizing important moments and emotions.

In conclusion, the individual sound reinforcement of actors in the theater is a complex but fascinating process that requires a careful approach and a deep understanding of both technical and artistic aspects. The harmonious combination of technology, creativity and sensitivity of the sound engineer allows you to create an unforgettable theatrical experience for the audience.

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