

SCHOOL SOUND

SOUND ADVICE FOR TODAY'S SOUND OPERATOR

WINTER 2009/2010

In This Issue

Want to know which microphones to choose for your plays and musicals?...
Page 1

Tips for placing boundary microphones on the stage...
Page 2

Avoid missing a microphone-on cue. Discover the perfect solution...
Page 3

For More Information



Sound Planning
Wheaton, IL
(630) 653-6700
www.soundplanning.com

Phone:
(630) 653-6700

Fax:
(630) 653-8672

Website:
www.soundplanning.com

Educational Website:
www.soundinstitute.com

E-mail:
sales2009@soundplanning.com

Call us...



Sound Planning
Wheaton, IL
(630) 653-6700
www.soundplanning.com

Pro sound & video for schools and performing art centers

- Design and consulting for renovation and new construction projects
- Alterations, upgrades, service, and repairs to any system
- Multi-purpose room, auditorium, gymnasium, and school sound systems

Microphone Techniques for Plays and Musicals

Of the different events and activities throughout the school year, theatrical productions are the most demanding on the sound system. Selection and placement of microphones can make or break a production. This article will provide you with microphone techniques to help make your theatrical production successful.

Goal

The primary goal of microphones for theatrical productions is to provide natural reinforcement of the human voice and instruments (if needed). This goal must be met while considering freedom of movement and sight lines.

Selection

Four basic types of microphones useful in a theatrical production are: headworn, lavalier, handheld, and area microphones.

The headworn, lavalier and handheld microphones provide the most freedom of movement and the least visual distraction

when they are wireless. These microphones are very useful for individual reinforcement which is discussed later.

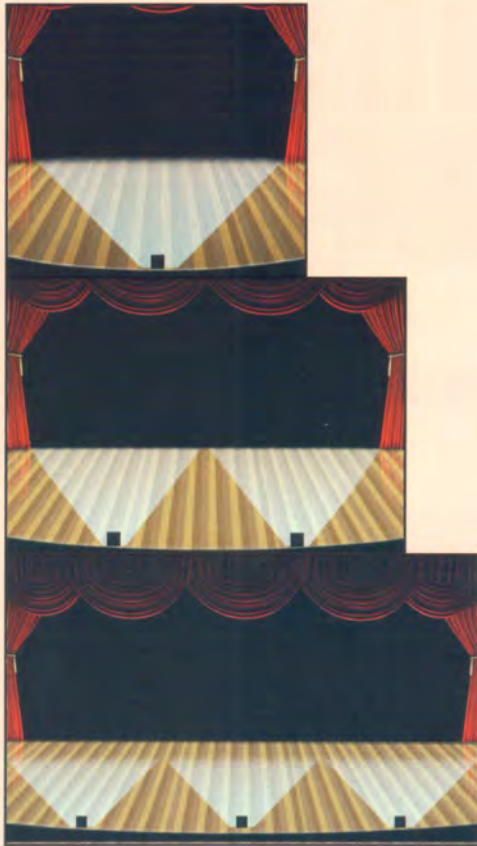
Boundary microphones are a very good choice of area microphones because they have a low-profile. Only unidirectional (favoring one direction) boundary microphones should be considered for theatrical reinforcement. Unidirectional models will help increase the amount of amplification before the onset of feedback. Also, they are less sensitive to audience noise and can help isolate voices from the orchestra or instrumental accompaniment.

Quantity

Depending on the width of the stage, one to four boundary microphones can be placed across the front of the stage (see Figures 1 - 3 on page 2). The best method for determining how many to use for a particular production is as follows:

1. Start with one boundary microphone centered at the front of the stage. If any dialogue is lost at extreme stage left and

Continued from page 1



Figures 1 - 3

Let the width of the stage determine how many microphones are used.

right, then add an additional microphone.

2. Adjust the two microphones so they split the stage in thirds.

3. Increase the distance between the microphones until extreme stage left and right are adequately reinforced.

4. Now check to see if dialogue from front center stage is noticeably lower in level compared to dialogue from someone centered in front of one of the two microphones (make certain that both microphones are on). If the center stage is weak in level, then add a third microphone.

5. The third microphone should be placed at front center stage. The other two outside microphones should be moved away from the center microphone until you start to notice a weak spot in dialogue reinforcement when someone is standing directly between the center microphone and either

outside microphone.

6. Unless your stage is very wide, three microphones should be sufficient. If you do feel the need for a fourth microphone, use the same guidelines described above for determining the distance between microphones.

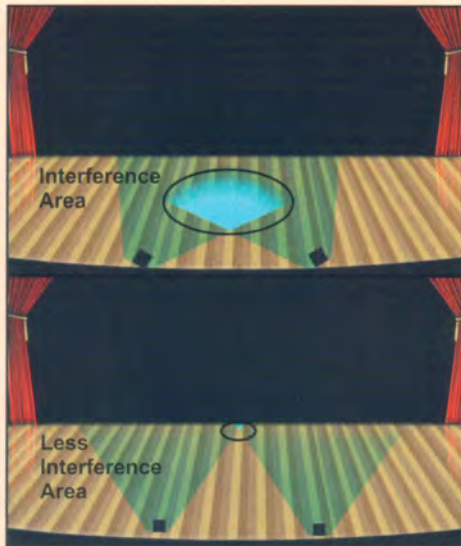


Figure 4

Reduce the interference area by aiming two boundary microphones parallel to each other.

Location

Place them as close to the front lip of the stage as possible. Determine which side of the microphone is least sensitive to sound. We'll refer to this as the back of the microphone. Make certain the back of the microphone is pointed toward any nearby sound sources you do not want reinforced such as audience noise or excess sound from the orchestra. Avoid pointing the front of any two boundary microphones toward each other. This will minimize the interaction of the two microphones. (see Figure 4).

Coverage Check

Now that you have determined the quantity and location of the front stage area microphones, check to see how far upstage (toward the rear of the

stage) you can move before the dialogue starts to fade. The blocking may require an area upstage beyond which the front area microphones will cover. This will create a problem. Area microphones should not be located on the floor in heavy traffic during the production. A microphone that is inadvertently stepped on or bumped will make an annoying sound or may be damaged.

Creative Solutions

Do not limit the use of area microphones to the floor. Boundary microphones are versatile. They can be mounted on props or other structures. In fact, using an adapter, they can be used with a wireless bodypack transmitter. Then, both the microphone and transmitter can be mounted to a prop and as the prop moves, so does the microphone, cable-free!

Individual Reinforcement

After placing the area microphones, if you feel the need to reinforce individuals such as main characters, etc., the best option is to use wireless lavalier or headworn microphones. They provide great sound quality with minimal visual impact. Handheld wireless or hard-wired microphones are also useful if a majority of the vocals are musical lyrics rather than dialogue.

Sound Operator

As with any sound system, the gain or volume of microphones which are not in use should be turned down. If you need all the gain you can get (which is usually the case), the sound person will need to be constantly riding the volume controls by adjusting up the active microphones and turning down the unused ones.

If you have any questions about the techniques in this article or if you need a microphone, please call us for pricing or more information.

■ Travis Ludwig

TECH TALK AUTOMATIC MIXER FOR DRAMA

Achieving high quality sound reinforcement for dramas can be very difficult. This article will explore factors for improving the sound for your dramas.

Performer

A sound system cannot amplify “nothing.” The actors must be trained and encouraged to project with good diction and volume. Then, the sound system can do its job of providing a natural boost for the voices.

Sound System

Why should a sound system even be used? First of all, because of modern home sound systems, the theatre audience expects to hear clearly without straining. Couple that with a noisier environment and a sound system often becomes necessary.

So a decision is made to use a sound system. It is very important that the sound system itself must be capable of producing a natural intelligible sound. If it doesn't, the best microphones and operator won't correct that basic fundamental problem. You must start with a good basic system. Please call us if you have questions about what a “good basic system” involves.

Microphone

There are several microphone methods to use for a drama or musical. Floor microphones can be effectively used for drama. However, they rely on fairly strong voices. If music is being used, the floor microphones and sound system will probably not amplify the voice over the music, especially with weak voices. In this case, wireless microphones are the best alternative.

Operator

Having multiple wireless microphones on the stage at the same time is usually necessary but difficult to handle. Feedback can become a problem.

Another problem occurs when two actors are close to each other. Both microphones will pick up the actor's voice. If both microphones are on, the combined result can produce very unnatural sound due to the phase differences between the two microphones.

The solution is for the operator to constantly turn the wireless systems on and off. This method can work, but the operator will have to be very sharp and familiar with the production. What is another answer? It is the automatic microphone mixer.

Automatic Mixer

The automatic microphone mixer has been around a long time. However, in the past, it has been quite expensive and often not effective. There are very good units available now which can reduce the sound operator's problems. An automatic mixer will inaudibly turn the wireless microphones on only when the actor or actress is actually speaking. Even with eight or ten wireless microphones on the stage, the automatic system will only turn on the unit that is being used. The result is very clean sound, even at maximum gain before feedback. With weak voices, that can be a show saver.

There are even automatic microphone mixers that can even help solve the phase problem described above. The “smart” automatic mixer will turn only one microphone on if it senses the same voice in both microphones. That helps eliminate the phase cancellation problem and the resultant poor sound.

The automatic microphone mixer could be used by itself. However, we recommend the following setup if your

manual mixer has the capability. Connect the wireless microphones to your manual mixer. Then, take the direct output of each channel and send each wireless signal to an input on the automatic mixer. Do not assign the individual wireless channels on the manual mixer to the mixer main output. Now, connect the output of the automatic mixer to another input on the manual mixer. This input is assigned to the mixer main outputs which feed the sound system amplifier. If you configure the system in this manner, the operator will be able to use the manual mixer tone controls and channel fader. The automatic mixer will do the actual control of the wireless microphones. You can also use the manual mixer on/off (mute) switches to turn off the wireless systems that are off stage.

Using an automatic microphone mixer can be very effective in providing high quality sound reinforcement for drama productions. It can also be used with music, but you will have to be more careful. Even the “smart” systems can be fooled with music, and may only turn on one microphone even if there is a duet. If this happens, you can simply assign those channels on the manual mixer and bypass the automatic mixer. When the song is over, switch back to the automatic mode.

Summary

Using the above tips and tools can help improve the sound quality of any production. It certainly takes a lot of stress off the sound operator. Best of all, the audience will experience great sound. The ultimate compliment on the sound system and the operator is when a listener comments about the great acoustics since they could hear everything clearly. Just smile and say thank you!

■ Ron Huisinga

SCHOOL SOUND

**SOUND ADVICE
FOR TODAY'S
SOUND OPERATOR**

WINTER 2009/2010

Attention Secretary,
PLEASE ROUTE TO:

- Sound Operator
- Principal
- Athletic Director
- Drama Director
- Other _____
- Save for the
Sound Operator Manual

**A newsletter for
anyone who
wants to learn
about sound!**

PO Box 53
Willmar, MN 56201-0053

PRSR STD
U.S. POSTAGE
PAID
HUISINGA & OLSEN

RETURN SERVICE REQUESTED

Impact Your School with a Great Sound and Video System!

Since 1976, **SOUND PLANNING** has served hundreds of schools in the Chicago area with high-quality sound systems, video systems, professional service, and guaranteed results. We have the people, the equipment, the technology, and the experience to meet your needs.

Great sound can breathe life into any event. It can help you make an impact on your students and it can bring excitement and clarity to any presentation!

- School sound systems
- Wireless microphones
- Wireless listening systems for the hearing impaired
- **SANYO** video projection system

 **Sound Planning**
923 West Liberty Drive
Wheaton, IL
(630) 653-6700

**Pro sound & video for
schools and performing
art centers**



Call Sound Planning today at (630) 653-6700 for a free sound system evaluation!
Sound Planning / Design - Installation - Sales - Service / (630) 653-6700