

Sound Systems for Auctioneering

**A Guide
Provided Courtesy
of
Lectrosonics, Inc.**

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INTRODUCTION

All public address (PA) systems have at least three basic components: microphones, amplifiers and speakers.

MICROPHONES come in three basic configurations - Handheld, Lavalier and Headset. Each type offers different benefits and features that vary with the type of sound system being used, and whether the system is used outdoors or indoors. Wireless microphones are a special type of system that eliminates the microphone cable to provide added mobility. The **AMPLIFIER** in this context is typically a combination of a microphone preamp, a mixer and a power amplifier. In larger indoor sound systems, the mixer and power amplifier are often separate components. **SPEAKERS** are last component in the chain, and sometimes the most critical element in the effectiveness of the sound system for a certain applications. The vast assortment of different types of speakers allows you to customize your sound system for particular sales and adapt to different conditions.

And once you have chosen your PA System, the proper setup of the system is crucial to getting the best sound for your money. Lets start the microphones.

MICROPHONES

The microphone converts a sound source into electrical energy. In an auction system, that sound source happens to be you, the auctioneer. Microphones are relatively simple devices, however, there are a few factors to consider.

HANDHELD

Handheld mics are easy to pick up and use, they can be put down when you are done and they are easy to pack up at the end of the auction. Unfortunately, they also keep you from using both hands and they are subject to some handling noise. People trained in microphone dynamics can be very effective with handhelds since the gain can be controlled and even the tonal quality of the sound varied by using the microphone in different ways. Many directional microphones exhibit a phenomenon known as proximity effect. When the mic is held very close to the mouth, the bass response dramatically increases. While this is good for singers and comedians, proximity effects can work against the auctioneer. Even so, the handheld mic is a popular choice for many auctioneers.

LAVALIER

A commonly used type of microphone is the lavalier or tie-clip mic because they are very small, very sensitive and can be purchased in a variety of shapes and types. The lavalier mic leaves the hands free, it can be easily hidden and is very comfortable to wear. Because they are so small and often concealed, the lavalier microphone is heard but not seen. For these reasons, these microphones are very popular with public speakers, motion picture production, theater, television news and programming, and church systems. Because lavalier mics are so far from the mouth, they are generally not a good choice for use with high output sound systems, as feedback from the speaker system can be a problem.

HEADSET

Popular with auctioneers, the headset mic uses a boom to place the microphone very close to the lips. By doing this, the user can get more gain from the microphone and the background noise is lower. This is why these mics are always used by the broadcast announcers at football games. When you have 80,000 screaming fans in the area, you need to eliminate as much background noise as possible. For hands-free public address usage such as auctioneering, the headset mic is your best bet.

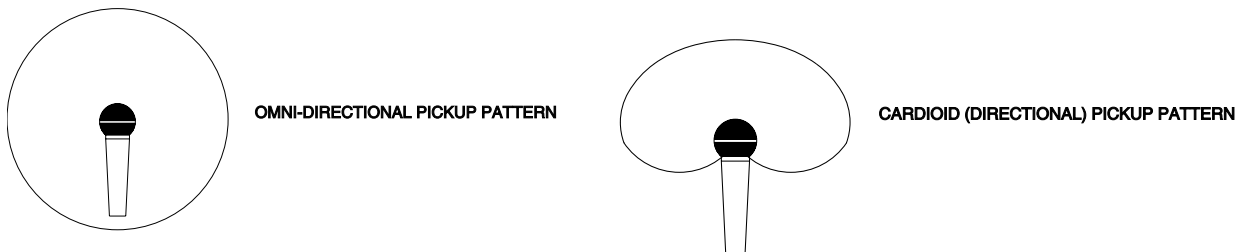
Many people will buy a headset mic and wear it around their neck for comfort. While this may be more comfortable, there is a trade-off. Very few people keep their heads in one position while they talk causing the mouth to constantly change distance from the microphone. Because the mouth is 1-2 inches from the mic in the closest position and several inches away when the head is turned to one side, the volume level rises and falls more dramatically. This can distract from the presentation. This is why you never see broadcast professionals use a headset mic in this manner. If the comfort factor, particularly during a long auction, is important, then careful attention to how you move may make the trade-off worth it.

DIRECTIONAL VS. OMNI-DIRECTIONAL MICROPHONES

After deciding whether to hold or wear the microphone, the next step is selecting the “pickup pattern.” The pickup pattern is how the microphone “hears” sound. The pickup pattern can have a dramatic effect on the PA system, affecting both intelligibility, (how understandable the speech is to the listener) and gain (how much amplification you can get from the system) and noise (typically handling and wind noise).

Omni-directional

Omni-directional microphones pick up sound from all directions. Sounds coming from almost any direction will be picked by the microphone. Generally speaking, omni-directional microphones have a “flat” frequency response - (they sound very normal) - and they are resistant to wind noise and handling noise. However, they can add to feedback problems indoors, something we’ll discuss later in this manual. Most headset microphones are omni-directional. Since they are so close to the mouth, they have enough gain to avoid the feedback problems an omni-directional handheld would exhibit.



Directional

Also called cardioid microphones, these mics tend to pick up sound from only one general direction. They help avoid feedback and interfering noises that may come from the rear and sides of the microphone. For example, at a livestock auction, a directional mic may help prevent the animals from “mooing” over the PA. Cardioid mics tend to sound higher pitched and need bigger windscreens to prevent wind noise.

Microphones are built with different sensing components called elements. The three most common are the dynamic, condenser and electret.

DYNAMIC MICROPHONES

The dynamic mic is the simplest of all. In effect, it is very much like a speaker. Because of their simplified construction, they are durable, reliable and inexpensive. However, they are generally not as sensitive as the other types.

CONDENSER MICROPHONES

Condenser mics use a different construction involving a charged diaphragm vibrating near a charged plate. They are much more sensitive because their internal parts are lighter in weight. Since these parts are lighter, they can be moved by sound more easily. The charged parts require power, however, so the amplifier must provide “phantom” power. Phantom power is provided by applying voltage to the microphone through the cable. Most condenser mics require anywhere from 9V to 48V. This can restrict usage to wired operation only on some models. Their other drawback is lower durability. The higher sensitivity of these mics makes it much easier to get more amplification from a low sound level source.

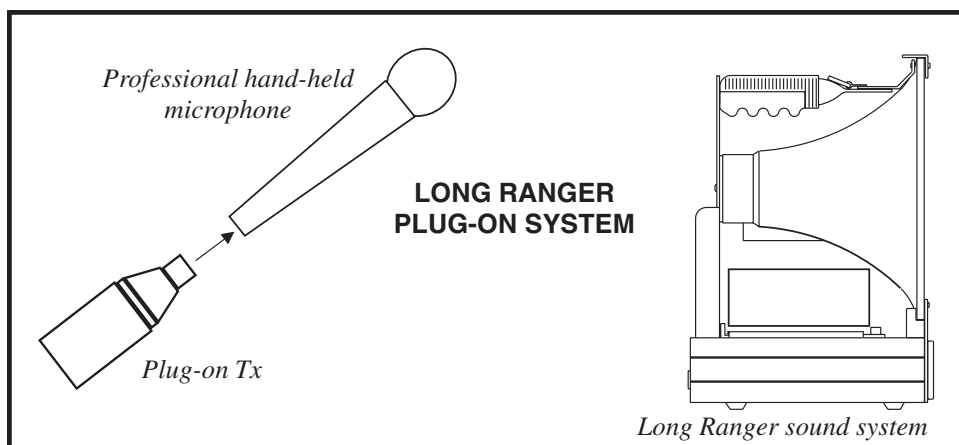
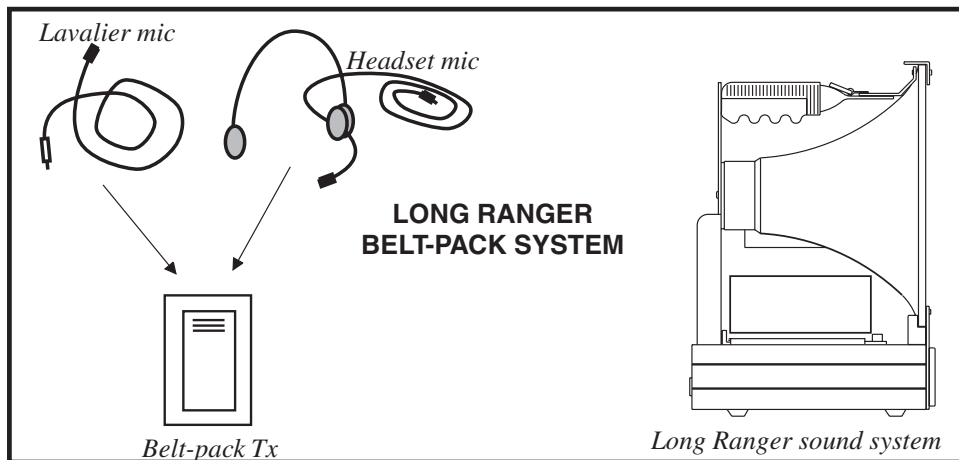
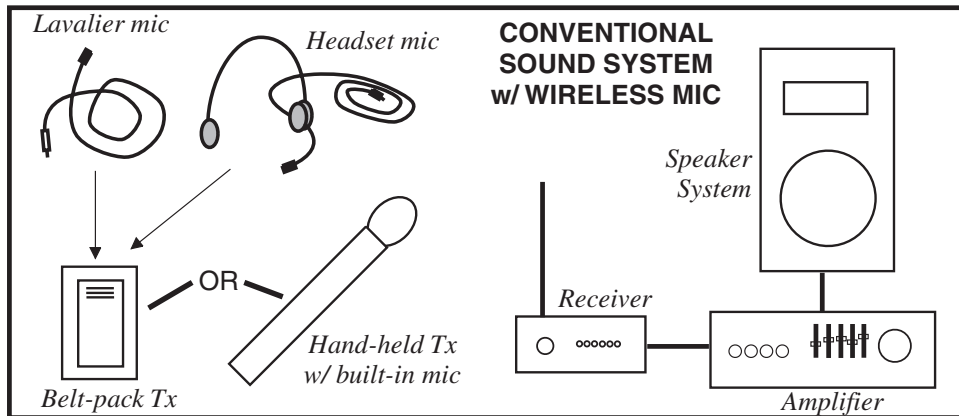
ELECTRET MICROPHONES

Electret mics are a modified version of condenser mics. Instead of charging the diaphragm, they have a permanently charged plastic film diaphragm. Now only the other surface requires phantom power. Many require only 1.5V of power to work. Since the film is extremely light, these can be very sensitive. Advantages include good durability, very high sensitivity, extremely compact size and low power requirements. Most lavalier (tie-clip) microphones are electrets.

WIRELESS MICROPHONES

Wireless microphones provide a mobility that is ideal for auctioneering. The ability to move around at a sale is very valuable, and the ability to move the microphone farther away from or out of the pattern of a loudspeaker system can mean much improved loudness and sound quality.

A wireless microphone system consists of 3 components: the microphone, a transmitter and a receiver. The transmitter converts the signal from the microphone into a radio signal. The radio signal is picked up by the receiver, converted back into an audio signal and then sent on the next component in the sound system (amplifier, recorder, etc.). Transmitters are available in belt-pack, hand-held and plug-on models. Receivers are available in stand-alone types that run on external power or battery powered compact models for expanded mobility. The Long Ranger is a specialized type of wireless system that combines a receiver, amplifier, speaker and power supply all into a single unit. The most common types of wireless microphones and sound systems for auctioneering are shown in the illustrations below.



SPEAKERS

Now that you have picked a microphone, you need to amplify the signal. The power amplifier is the next component in the system. The first question every auctioneer asks is “How many watts should I buy?” Before that question can be answered, you need to decide what type of speakers you will be using. So let’s look at speakers first. For PA purposes, there are two basic types of speakers.

CONES

Full Range Speakers

The first is the cone speaker. This is the variety you will find in home stereos, cars, and large speaker columns. The cone type speaker has a wide frequency response which can give your voice very natural amplification. Excellent for indoor use or small groups, the cone speaker will have some drawbacks outdoors with large crowds.

First, they are not very efficient. To get ample amplification outdoors to cover large crowds, you will need large speakers driven by powerful amplifiers. These components are built fairly heavy in order to handle these power loads. Second, they are typically built of materials that are not designed for outdoor use. Constant exposure to the elements may result in premature failure. Full range systems designed for outdoor use are even more expensive.

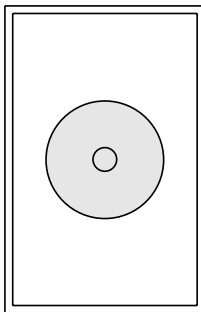
Additionally, the quality of the audio will actually become muddy at a distance. This is because the lower frequencies (bass) travel further than the higher frequencies. Eventually, about all you can hear at a distance is the bass. This will actually reduce intelligibility for someone listening at the back of the crowd. Cone type speakers are recommended for indoor use with smaller groups of people. Cone type PA speakers come in several configurations. The simplest is the single speaker in a box known as a full range speaker. The full range speaker will reproduce a fairly wide speaker response. The full range speaker, however, isn’t designed for high power levels.

Co-Axial and Tri-axial

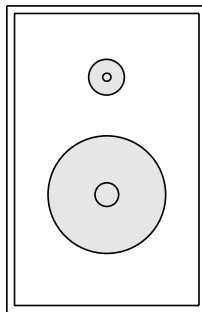
Another common type of speaker are those which have different elements built into the same cabinet, each element designed to handle a separate part of the audio spectrum.

For example, a co-axial speaker contains a circuit (**crossover**) which splits the audio signal into two separate signals, one for the lower bass frequencies and one for the higher midrange and treble sounds. These separate signals are then sent to speakers designed for those frequencies. The bass signal goes to a large diameter speaker commonly called a woofer while the higher frequencies go to a smaller speaker. A tri-axial speaker will contain crossovers which will split the signal into bass, mid-range and treble. Three different types of speakers will be incorporated into the same cabinet.

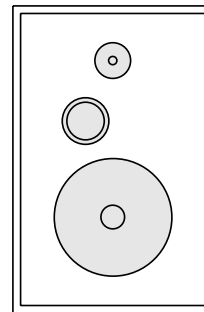
Speakers with crossovers will give a clearer, cleaner sound. They will also require more wattage for the same sound levels and will generally be much larger and bulkier.



FULL RANGE



TWO-WAY



THREE-WAY

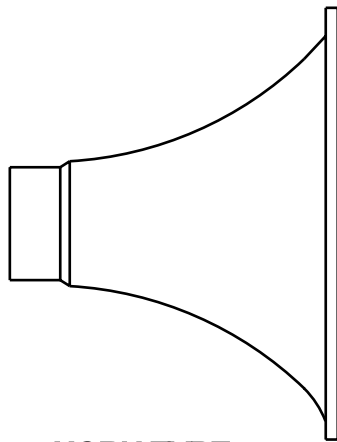
HORNS

The horn type of speaker has been popular for outdoor PA use for decades. The typical horn is usually made of metal or polymers and can withstand the elements better than the cone type speaker. They are far more efficient, which means more sound volume at lower wattage. By lowering the power demands made by the speakers, you can reduce both the size and power requirements of your amplifier.

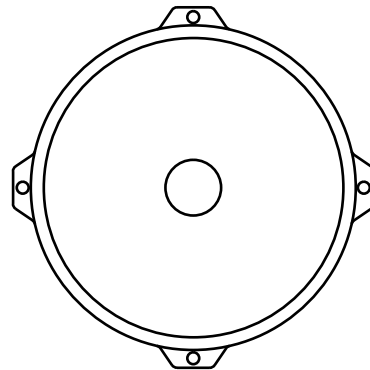
Horn speakers can best be described as “bright” in their sound. The higher frequencies are reproduced very clearly with virtually no bass. The limited frequency response is one reason they are so efficient. They don’t waste energy reproducing the bass frequencies. Outdoors, the tinny sound is not very apparent. The speakers can also project farther without getting “muddy”. The end result is better intelligibility at longer distances.

A very important point here is that horn speakers typically found in outdoor PA systems are incapable of producing bass. Therefore, a tone control on the amplifier doesn’t accomplish anything except send amplifier energy into never-never land.

The horn speaker is recommended for large groups indoors or outdoors, where intelligibility is important over greater distances. This is why you see horns on nearly all cartop units, portable outdoor PA’s and in large auditoriums. As an auctioneer, it is far more important that your customers hear what you said clearly.



HORN TYPE



CONE TYPE

AMPLIFIERS

INPUT & OUTPUT CONNECTIONS (jacks)

First, are there enough microphone inputs for your purposes? Generally speaking 2-3 microphones are all most auction systems will need. Too many microphones will restrict your ability to amplify. Every time you double the number of active microphones, you lower the maximum level of amplification.

Are the inputs compatible with the microphones you have chosen? Does the amplifier provide phantom power if your microphones require it?

Are there line level inputs? Line level inputs accept higher input levels from equipment such as tape recorders, CD players or other audio gear. This may be important if you want to play back recordings through the PA system. Some auctioneers will use this to entertain people before the auction starts or to play back a recording of the bidding to settle disputes.

Are there line level outputs? Your tape recorder will give you better recordings if you can record directly from your sound system. You can damage equipment if you try to record from the speaker outputs because the voltage will be quite a bit higher than the recorder input is designed for.

OUTPUT

The output of the amplifier is described by the wattage output and the distortion. These are also the more important rating of the system. The wattage is going to determine ultimately how loud you can get your system. This is also the rating that gets kicked around a lot in the specifications. Below are a few specifications and how they should be interpreted.

WATTAGE

This is basically the power output. This specification should tell you the power level in Watts (RMS). RMS means "Root Mean Square". Basically, it gives a more realistic rating of the amplifier's continuous output. Peak power will tell the maximum output the system can generate for a short time, but this figure won't tell you how well it will perform for long periods of time. RMS power may be also noted on the specifications as continuous power. A properly listed power rating will tell you the output in watts RMS into a resistance measured in ohms. Most PA speakers are 8ohm.

For outdoor PA systems with large groups, a power rating of 25 to 50W RMS would work very well if you are using horn speakers.

For an indoor system with full range speakers, 30-200 watts may be needed for a large group. If your buyers don't make up a very large crowd, a portable PA rated at 10 watts will do a great job.

For larger systems, your dealer should match the amplifier to the speakers you have selected.

DISTORTION

This specification is an indication of the amount of distortion you can expect. The lower this number, the better the sound should be. For nearly all good amplifiers for PA purposes, this number should be lower than 1%.

Example -

Amplifier - Power
Distortion

50W RMS into 8 Ohms.
Less than 1%

PORTABILITY VS POWER

Avoid overkill. Buying an amplifier much larger than you need will cost more, use more power, and be counter-productive. Remember, you may have to move this system from one auction to the next. It will cost you time and money if your PA system takes three people two hours to setup and tear down. The more efficient your system, the better off you will be.

If your auctions are all held in the same location, buying a system made up of separate components and permanently installing them may be of benefit. Be sure to install good security features to keep the equipment safe when it is not in use.

There are many good portable PA systems available on the market which will give you good coverage and plenty of power. These systems are built with the microphone, amplifier and speaker already matched up. The advantage is reduced setup time. Integrated cartop, battery powered, and wireless microphone systems all reduce your setup time and reduce your reliance on outside power supplies. In addition, these systems can be easily stored in a locked area when not in use.

There are a few factors to look at here. If it is a portable, battery powered PA, check to be sure the batteries will last all day at full volume. Battery capacity is measured in amp-hours (AH). Batteries rated for 8AH are going to provide power longer than units rated at 3.2AH.

Be very careful of systems that don't tell you the actual output of the amplifier. Some products may be advertised telling you the capacity of the speaker or speakers included with the unit as a system. This will tell you the power level the speaker may be capable of handling but doesn't tell you anything about what is driving it. It would be like advertising a car that has tires capable of going 300 mph. If they don't tell you that the car can only go 25mph, then they haven't told you the whole story.

Talk to other auctioneers who have used the system. If possible, attend an auction where the sound system is in use so you can hear it in real-life conditions. A sound system that sounds great in the showroom may not do so well in the field. Obtain an actual written copy of the warranty before buying.

SETTING UP YOUR SYSTEM

Now you have three components put together in a system and you turn it on for the first time. Immediately you get a loud squealing noise known as **feedback**.

CAUSES OF FEEDBACK

Feedback results when the amplified sound hits the microphone at nearly the same volume as the source. You are generating a sound wave which is picked up by the microphone, amplified by the sound system, picked up again and amplified more by the sound system and so on. It is characterized by howling from the speaker or a ringing noise.

The easy cure for feedback is to turn down the volume. The feedback goes away but now everyone can't hear what you're saying. Curing the symptom by turning down the volume won't solve the problem of getting enough amplification. The better approach is to set up the system so feedback is prevented in the first place. What you are trying to do is get more **gain** from the system.

GAIN

Gain is the difference (in sound level) between the original source and the amplified signal.

For example - A bidder is sitting 35 ft from the auctioneer who is speaking without an amplifier. The bidder hears the sound at 65dB. When the amplifier is turned on, the bidder can now hear the auctioneer at 77dB. 77dB minus 65dB results in a gain of 12dB.

A decibel is a measure of sound that is based on proportional measurements and is logarithmic in nature. To get 3dB more gain is equivalent to doubling the sound level. Although 12dB doesn't sound like much of an increase, it is actually about 16 times louder.

The whole idea is get as much gain from the system as possible without feedback.

MAXIMIZING GAIN

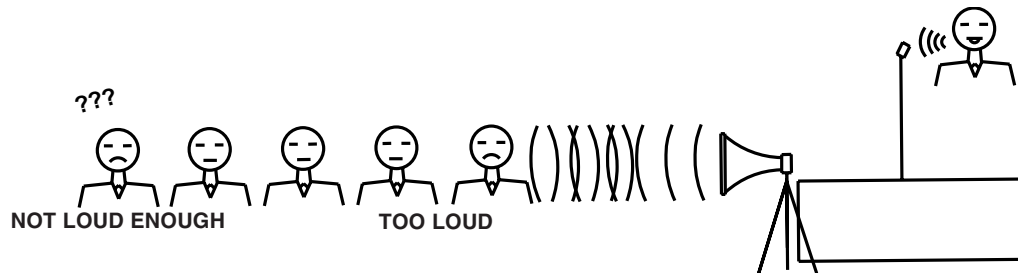
1. Decrease the distance between you and the microphone. Adjust the input level for the microphone so that the microphone picks up your voice but not background noise.
2. Increase the distance between the microphone and the speakers. The speakers shouldn't be very close to the microphone. Don't get carried away with this. If the speaker is too far away, you will get an echo effect or lose effective volume for the crowd.
3. Point the speakers towards the crowd, not yourself.

4. Try to direct the sound over the heads of your audience. Reflections off the front of the crowd can actually increase the chance of feedback. Furthermore, the sound is blocked by the people in the front row. They are getting blasted by sound and the people in the back can't hear at all.

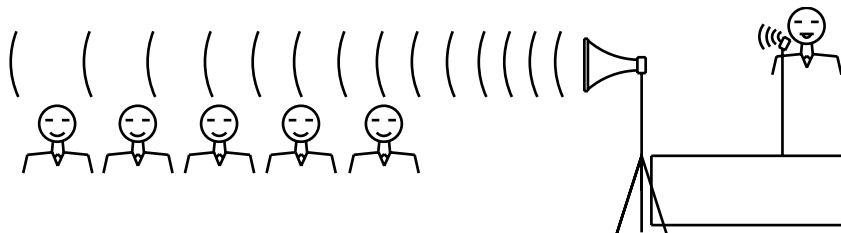
OTHER NOISE SOURCES

Background noise - picking up the sounds around you. You have the mic set too high or too "hot". Turn down the microphone level so these sources of audio aren't picked up by the mic.

Wind noise - The wind is a constant source of irritation for auctioneers. Use a foam windscreen to reduce this problem. It will also reduce popping from having the mouth too close to the microphone. If the wind is still a problem, use a larger screen or reduce the microphone level slightly. Try to block the wind with your body.



In the diagram above, the speaker is too low and too close to the microphone and the auctioneer is too far from the microphone. The man in the back can't hear. The man in the front is going deaf and the whole system is about to feedback because the mic is too close to the speaker.



In this diagram, the speaker is elevated so the sound can pass overhead, and the microphone is set further back. The auctioneer is closer to his microphone than in the previous example. The result is that the sound is actually set lower, so the front row isn't getting drowned in sound. Everyone is much happier.

5. Use directional microphones. If your sound system doesn't have too much bass, then a cardioid microphone will definitely increase gain. Here is another case where too much bass in the system will be counter-productive. Because bass speakers radiate their sound in all directions, you can get feedback sooner from a system with a lot of bass, even if the speaker is pointed away from you.

INTERFERENCE AND NOISE

Two other common problems are interference and noise. If you are getting a constant hum from your AC powered sound system, the cause could be what is known as a ground loop. It is caused by improperly grounded components in the sound system.

It is characterized by a low pitched hum. To get rid of it requires that you carefully make sure all the components of the system are properly grounded. This problem can be avoided by using a DC powered system such as a portable or cartop unit.

Other causes of noise are introduced by using long cable runs between speakers and amplifiers, and between microphones and amplifiers. The cables can act as antennas and get local radio stations, CB, and other RF (radio frequency) noise. If your system is going to require over 100 ft of cable, be sure to use balanced cables.

Balanced cables feature three leads. The outer shield is braided wire surrounding the internal wires and forms the ground. There are two wires inside that carry the + and - of the audio signal. The outer wire shields the audio lines from interference originating from RF sources.

INDOOR INSTALLATIONS

1. Don't set up too many speakers. This will cause echoes, dead spots and oddball reflections. Remember, the auctioneer is not a stereo sound source. Use only enough speakers to cover the area. Be aware of the coverage with just one speaker. Aim the speakers to cover the crowd without too much overlap. This is especially important in a large area.
2. Use full range speakers for small groups, horns for larger auditoriums. Remember that too much bass will cause a great deal of "boominess" towards the back of the room. That's great for rock and roll but will be counter-productive where you are trying to sell fine antiques.
3. Elevate the speakers if possible. This will stop feedback from reflected sound bouncing off the front row and help the folks in the back row hear better.
4. Ring out the system before the auction - Turn on your sound system and find out how high you can turn your system with all microphones open (turned on) before feedback. Turn up the volume while talking until you start hearing a faint ringing sound. Back off the volume a bit and mark that spot on the control. Then, when the auction starts, you know where the maximum point is. Remember that the presence of the crowd can affect the actual final point. If you know the limits before you start, the better off you will be.
5. Don't try to use too many microphones. Every time you double the number of open microphones in the system, you will have to reduce your amplification by 3dB (half as loud as before). For most auctions, 2-3 microphones should be about all you need active at any time.
6. Finally, you may have enough gain in the system to be too loud. Remember that hearing comfort is extremely important to your bidders. If your system is too loud, they may leave before the end of the auction just to get a break from your PA. Keep your volume levels comfortable—at a level where you can be easily heard.

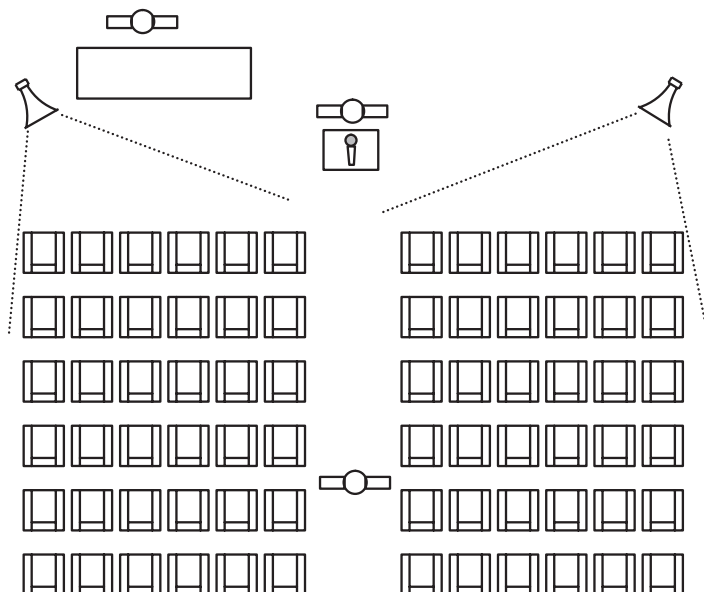
The following illustration shows you an actual room where the systems have been set up for maximum gain. This setup will work in rooms that seat up to several hundred people. In larger indoor spaces, such as warehouses, you can have problems with time delays and echoes similar to those described in the next section, outdoor installations.

Antiques/collectibles auctions

The auctioneer may work on a platform in front of a large crowd. A portable wireless sound system will allow the auctioneer to be heard by everyone and he will be free to move easily around the platform.

Automobile auctions

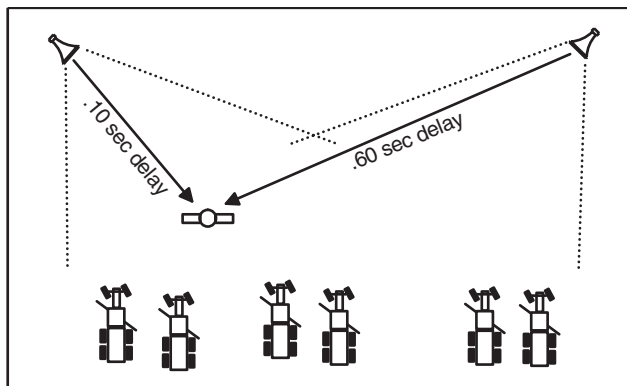
It may be a good choice to connect a standard wireless system into the fixed sound system in an automobile sale lot to avoid having to run long cables to the towers or "perches" where the auctioneers will work.



OUTDOOR INSTALLATIONS

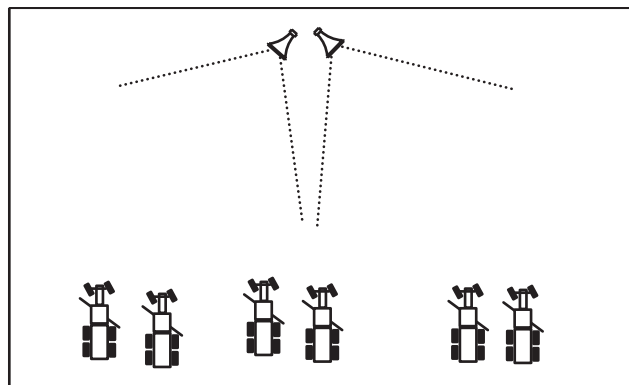
1. Keep the microphone as close as possible.
2. Set the speakers away from you. Don't put them too far away or you will get long delays where you say something now and the sound is heard 1/2 to 2 seconds later. Working in an echo chamber is no fun and is confusing to the crowd.
3. Keep the speakers as close together as possible. Remember, sound only travels about 1100 feet per second. If you separate them too far apart, then you set up another type of echo effect and the same confusion results. Ideally, speakers will be right next to each other pointed in different directions where they can be heard anywhere. Each speaker should cover its own unique territory.

For example, you have your speakers placed about 225 feet apart. Your best customer is standing close to the first speaker. He will hear what you say come out of the first speaker almost immediately but the sound from the second speaker won't get to him until 1/4 second later. He hears a very confusing echo. Since he can't follow the bidding, he doesn't bid and you both lose.



A BAD SETUP

In this auction yard the speakers are so far apart that the sound is getting to the bidder at two separate times. He gets a confusing echo about a half second behind the main sound.

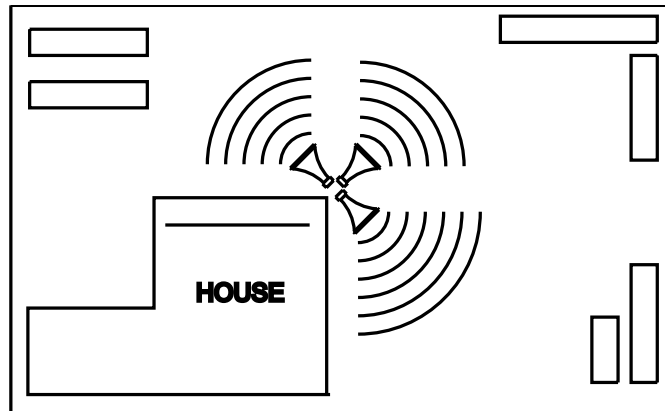


A GOOD SETUP

By placing the speakers together, the confusing echo is gone and the auctioneer can be heard more clearly. This bidder can follow the action and will be more prone to bid.

4. Watch which way the wind is blowing. It can blow sound around just as well as hats, litter and certain species of annoying small dogs. Take advantage of this if you can. Try to place speakers upwind if it looks like it will be a windy day.

In this illustration of an estate auction, the setup involves the house plus several tables of furniture and antiques spread across the yard. The speakers are placed in a central location which allows the auctioneer to be heard while moving freely. This setup uses a wireless microphone which, of course, adds to the mobility of the auctioneer. Once the auction has started, there is no need to relocate the PA system. Please note that the speakers direct the sound around each corner. The tables are placed away from the house so the crowd and the auctioneer never need to get too close to the speakers.



SOUND SYSTEMS FOR DIFFERENT AUCTION TYPES

Each sound system has its special features. You have to consider several factors when picking the right sound system for your type of auction. Size of the crowd, location of the auction (inside or outside), background noise that could distract your listeners, and need for mobility will all influence the choice you make. Sometimes, a combination of sound systems works best.

SOME GENERAL TYPES OF AUCTIONS

Heavy equipment, boat and airplane auctions

For groups larger than 300, a portable wireless sound system would be ideal. Your assistant could move the unit periodically as you move down the row of merchandise or you could set it on a tripod in the back of a truck to move the speaker down the row. Your wireless microphone will allow you to move freely around the equipment and even climb up on it to see over the crowd.

Estate/Farm auctions

This could be the type of auction where you use a combination of equipment. There are usually goods to be sold inside and outside. If the crowd is small, use a portable over-the-shoulder sound system with a cone type speaker. When you finish walking around inside, it's simple to move outside to continue the sale.

If the outside group is widely scattered and won't be following you from item to item, set up a portable wireless sound system in one position. With the wireless microphone, your bidders can hear you no matter where they are as you move freely among the sale items.

Livestock auctions

The auction room or arena at the stockyard will generally have a pen located below the auctioneer's perch where the animals are brought in to be sold. The auctioneer is stationary and doesn't need a portable unit unless he needs to provide his own sound system or no AC power is available. In this case, the portable, wireless sound system would work best for a large group. Standard wireless systems can also be connected into the house sound system.

Real estate/industrial auctions

Real estate auctions are often held for large groups in tents where a portable wireless sound system would give you the best coverage. Industrial auctions can be held inside large, open buildings where the portable wireless sound system would also do a good job.

PORTABLE WIRELESS SOUND SYSTEMS

When looking for a wireless PA system, you need to look at the transmitter as well as the base unit which contains the receiver.

*** Does the belt pack have an external “dangling wire” antenna ?**

All transmitters need an antenna to work right. Some models have an antenna that hangs from the bottom of the transmitter. External antennas like this one can be broken easily when you sit down and are unsightly. A better type of transmitter uses the microphone cord as the antenna.

*** How is the antenna on the base unit attached ?**

External or removable antennas can get lost or broken. A permanent, concealed antenna cannot be lost or broken.

*** Do the specifications give you amplifier output ?**

Be very careful of systems that don't tell you the actual output of the amplifier. Some products may advertise the maximum power handling capability of the speaker included with the unit (which doesn't tell you anything about how loud the system will be). It would be like advertising a car that has tires capable of going 300 mph. If they don't tell you that the car can only go 25 mph, then they haven't told the whole story. Look for a spec that gives you the amplifier output power. It is even better if a spec is provided listing the maximum sound pressure level (SPL) that the system can produce.

*** Is the system manufactured by more than one company ?**

If you have problems with your unit, it will be returned to you sooner if repairs can all be done under one roof. Who knows when you'll get your unit back if it has to go to more than one place to be repaired ?

*** Does the base unit have a continuous battery charging status light ?**

When you plug in the battery charger, you need to know if the batteries are taking a charge and how long to leave the charger plugged in. The battery light must be part of the charging circuit to show what's actually going on. “Push to test” switches may or may not be part of the battery circuit.

*** What is the battery amperage on the base unit ?**

The battery should be powerful enough to run your unit all day at full power. A 6 amp hour battery pack would work well but an 8 amp hour battery pack would be even better.

*** Is the warranty a full one year on parts and labor ?**

If you have any doubts, ask to see a copy of the warranty before you buy. Many companies have limited warranties on certain parts of equipment. Make sure all parts are covered for one year.

*** How economical is it to add onto the system ?**

Some add-on systems cost as much as the original equipment. Verify what the “add-on” wireless consists of. Is it a second wireless system that attaches to the base unit, or simply an offer to sell you another complete system. Be sure to ask about this before you're ready to add a second channel onto your system so that you're not surprised later.

*** Is the equipment manufactured in the USA?**

When it comes to service, there's nothing better than dealing directly with the factory.

SUMMARY

When selecting a PA system for auctioneering, remember that it is vital that the sound system allow you to communicate clearly with your buyers. Clarity and the ability to cover your entire crowd are the important functions of the sound system. A good PA system will allow you to call an entire auction in a normal conversational voice. As an auctioneer, you like enthusiastic bidders, but don't want to have to yell into the microphone and spend the next three days with little or no voice.

Select your system according to the type of microphone you are comfortable with, the types of auctions you normally run, and the size of crowd you will be dealing with. Buy as much system as you will need but be sure it will be adequate for your largest auctions.

Remember to centralize your speakers. Keep the mic as close as possible to your mouth and as far as possible (within reason) from the speakers. Try to project the sound of the system over the heads of the crowd.



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