Sound Systems for Your Large Meeting Rooms

A sound system plays a significant role in the school gym or auditorium. But what about the other large rooms in the school such as the lunch room or the lecture halls? These facilities are often host to community meetings, political meetings, staff meetings or student club events. Whatever the situation, the need for a well functioning sound system is important.

Whether you need to update your present system or install a new system, there are several features that should be considered.

How Many Inputs are Needed?

A typical mixer used in a large meeting room would have four to eight inputs. The number of inputs will often determine how many microphone inputs are available. For instance, a six channel mixer may be configured so one input is connected to the school paging system (Fig. 1). Another line input could be a CD deck for music playback. Figure 1 shows input 4 is reserved for a wireless microphone. The remaining three inputs are dedicated for other microphone inputs.

If you do need more microphone inputs, other solutions are available. For
example, a separate portable mixer could be used. If the portable mixer has a microphone level output, it could be plugged directly into a microphone jack. A portable mixer with only a line level output could also be connected to a “direct box.” The microphone level output of the direct box is then connected to a microphone jack.

Where Should the Mixer Be Located?

The location of the mixer/amplifier is important. It probably needs to be in a lockable cabinet either in the room itself or in a nearby, more secure storage room. If the mixer is located in the room itself, try to position it so the operator has good sight lines and can also hear the sound system. You will also want to limit access to the system’s controls so curious fingers don’t cause big headaches.

If the mixer is located in a remote storage area, a remote volume control is very handy for setting the proper volume. It’s even possible to install controls that are only adjustable with a key-activated switch. Controlling the volume from multiple strategically located panels is another option.

If the mixer is located in a storage room, locate it close to the door. It is too easy for access to get hampered by tables and chairs, etc. Another good idea is to install a loudspeaker monitor in the equipment room. This loudspeaker should be set at the same volume level as the main loudspeakers so adjustments at the mixer will be appropriate for the meeting room.

What Type of Loudspeaker System Should Be Used?

Depending on the ceiling height and the shape of the room, there are numerous alternatives for loudspeaker type and location. However, most meeting rooms have a relatively low ceiling in relationship to the area of the room. Because of this, a distributed system of loudspeakers mounted in the ceiling is the most common design. This also allows the microphone to be located almost anywhere in the room.

Can the Large Meeting Room Be Split into Smaller Rooms?

Perhaps you have several small rooms which can be combined to form a large room. You will probably need a zoning feature on the sound system. This will provide a separate system for each small room. The separate systems can then be bridged when the rooms are combined, forming one larger system.

Why Does It Have To Be So Complicated?

It doesn’t. A COMPREHENSIVE sound system isn’t necessarily complicated to operate! We have the experience and know the questions to ask. We want to make sure your sound system will meet the needs that are demanded of it.

Ron Huisenga

Optional Meeting Room System Equipment

There are many other options which can be added to the meeting room sound system which help provide more consistent, high quality sound. One example is the automatic microphone mixer. This is a great addition when there are multiple microphones in use. Panel discussions, board meetings, and political debates would be good examples. The mixer automatically turns on the microphone when somebody speaks into it. This helps prevent feedback by keeping unneeded microphones turned off. Another good option is the leveler. The leveler is like an automatic sound system operator; it will adjust the volume up or down to achieve a more consistent sound level.
In today’s world of sound systems, the equalizer has become a common sight. It is used in almost every sound system.

What is an equalizer?

Simply, an equalizer is a number of electronic filters which allow you to control (or adjust) the frequency response (or tone) of a sound system.

Types of Equalizers...

The Shelving Filter Equalizer

The most basic type of equalizer is the shelving filter. This is the tone control most used in home stereo systems and basic sound system mixer/amplifiers. However, it is not useful for fine tuning a sound system.

The Parametric Equalizer

The second type of equalizer is the parametric equalizer. This is a sophisticated tool which allows you to adjust not only the amount of cut or boost, but you can also control what frequency is most affected.

The Graphic Equalizer

The third type of equalizer is called the graphic equalizer. The controls are constructed so you can “graphically” see how the individual filters are set (see Figure 3).

Graphic Equalizers

There are three basic types of graphic equalizers. The difference is mainly in the number of filters in the equalizer. The smallest is the octave band equalizer, which is usually nine to ten filters with their center frequencies set one octave apart. Figure 4 shows the response curves of a typical octave band equalizer. This graph shows the response of each filter individually adjusted and then their responses are overlaid onto one graph. The two-third octave band equalizer has 15 filters which are spaced 2/3 of an octave apart. The 1/3 octave band equalizer provides the highest degree of control, where the center frequencies are spaced only 1/3 of an octave apart. This device usually has 27 to 30 filters.

What Do I Do with All of These Knobs?

The equalizer will let you control or entirely change the frequency response of a sound system. Here is a partial list of uses. . .

Equalization of the Loudspeaker System

The loudspeakers may not reproduce an even (or flat) frequency response. In other words, certain frequencies are louder or softer than others. This can produce sound which is unnatural, harsh, or doesn’t have enough bass. The 1/3 octave band equalizer can be used to electronically smooth out the response and make the loudspeaker sound better. The parametric can even do a better, more precise job.

How to Adjust Equalizers

An equalizer is typically best adjusted by a professional who uses sophisticated computer-based tools like SysTune, Smaart, EASERA, SIM, or TEF. It takes the right equipment and a lot of experience to do the job correctly.

So Why Use an Equalizer?

The two fundamental reasons for using an equalizer are:

1. To increase the naturalness or intelligibility of the sound system.
2. To increase the gain or volume of the system before feedback occurs.

Equalizers are best used to fine tune the frequency response of a sound system. The basic system should be good by itself. The equalizer is the final tuning measure—the icing on the cake.
WINTER 2010/11

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

Clear Sound
Professional Audio and Video Support
610-626-7600 • www.clearsoundinc.com

Need help planning your Holiday Show? Call us today—we’d love to talk to you!
610-626-7600