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Designing a sound system that will fit your church and some of the issues that church leaders may face and how to go about conquering them.

A church will generally need a new sound system for one of two reasons. The first reason is you may have a perfectly good system but your worship style has changed or your average service has increased in size to the point where the system is no longer adequate. In this case, what you are doing has changed so that a once appropriate system is no longer sufficient.

The second reason has more to do with the tendency to continually fix a sound system that was never right in the first place. Consider this, your average mixing console, amplifier, speaker and even microphone, if treated well and serviced when necessary, will last nearly indefinitely. If you are thinking about a new sound system you have either changed direction, grown considerably or have not yet installed a good system that was professionally designed and implemented. A third reason for purchasing a new sound system although, most uncommon, is your existing system is old by twenty years or more.

How do you know when you need a new sound system? If you are getting consistent complaints after every service that the sound is too loud, too soft, or unintelligible, but you are confident that your sound system operator is competent, you might need a new sound system.

If it becomes obvious that you need a new sound system, what next? Needing a new sound system can mean many things and have far reaching ramifications. I have divided the process of realizing you may need a new system through having it installed into five basic topics that should be considered.

First: You need to find out why your old system was inadequate. This may be an easy question to answer. Common problems are, "Poor coverage," meaning it sounds good only in some of the seats. "Too much feedback," you can't get the system loud enough without going into feedback. "Poor sound quality," could be with regard to speech intelligibility or with the musicality of the system. If your style of worship is changing, becoming more contemporary, a few issues would be you may find that your console no longer has enough inputs and your speaker system does not have enough bass and/or is not loud enough.

One question you should ask yourself has to do with the liability associated with speakers flown over people's heads. Do you know who hung your speakers? Are these speakers even designed to be mounted in the air and do you know if the point where the speakers attach to the building structure can support the weight of the speakers? It is very rare that speakers fall, but, unfortunately, churches are known for finding cost effective, in-house solutions when installing a new speaker system.

If you do not know what is wrong with your system, conduct an informal in-house survey. What do the musicians think about the sound operator? You should speak with members of the congregation. Make sure you speak with people of varying ages and who generally sit in different parts of the sanctuary and even attend on different days. You probably speak with your congregation regularly, so simply steer the conversation to sound, asking, "Were you able to understand all of what the Pastor was saying? Did you enjoy the music?" Don't use leading questions like "Did you think the music was too loud?" or "Does the music sound thin to you?"

This is also the time to select an audio consultant to help design the next sound system. For now, I won't go into how to select a consultant, but assume you are doing so. Your consultant should attend a service and meet with the audio staff. Compare his or her professional opinion about your system to the information you have gathered. Your consultant will be able to confirm whether your problems are directly related to your audio equipment or other factors like "Poor room acoustics." They will also evaluate your existing equipment to see if any of it can be re-used in the new system. Don't be surprised if much of it is not re-useable. Older equipment does not usually perform up to the standards of newer, more efficient equipment.

Second, look at your sound system in terms of primary and secondary equipment and listening areas. If we consider everything in the main sanctuary as the primary aspect of the sound system, then your monitor system needs to be evaluated at the same time as the main system. This may be the time to expand to a separate monitor console or a system that allows each musician to create their own mix in their headphones or monitors. Look at all the secondary audio equipment that connects to the main sound console. Evaluate the quality, cost and life expectancy of that equipment. This could be a 70volt system that distributes audio from the sanctuary to all other areas in the facility or a video payback device, like an old VCR that has a feed to the audio system. Shouldn't you include a DVD player in the new audio plan?

Third: What additional capabilities do you need or see a need for in the future. You really need to spend some time on this topic. The last thing you want is to purchase a great new audio system that solves all your previous problems but doesn't grow with you and needs replacing within five years. Think ten years out. I doubt you will be able to accurately predict where you will be in ten years, but you will be much better off for at least considering it.

Some of the more common expansion paths include the desire to make audio recordings of services. To add video for recording or the ability to broadcast audio and video to other "overflow" rooms or future classrooms. If as part of your community outreach plan you hope to bring nationally recognized artists to your sanctuary you may need to increase the capabilities of the system beyond your daily needs. If you don't have an assisted listening system yet, plan to add it during this expansion.

Fourth: Budget. How much do you think you can realistically afford to spend? This is a topic that I am certain you are familiar with. It seems that the ability to raise funds for audio system upgrades is inversely proportional to the age of the congregation. A new sound system is a serious and costly endeavor and like any other large capital expenditure you need to start planning this one as soon as possible. If you can cover the cost of your general fund, great, but if you plan to work with a lending institution or to have special collections, give yourself time. By time, I mean months.

Fifth: Time. How long will all this take? This is hard to say but let me generalize. First put aside a month to begin selecting a consultant and doing your internal interviews. One more month should be allowed for the consultant to come to understand your needs and put together an initial design. After you review the design and feel confident you can afford the system, it will take several more weeks for the consultant to make any last changes to the system design and to create a documentation package that you can send out to bid.

Allow a month for the bid process and additional month for the actual work. This totals over four months and assumes that the consultant and the contractor can begin work immediately. It also assumes all the equipment needed is readily available. This time frame is for a medium size sanctuary and represents a sound system only upgrade. You may be able to save some time by avoiding the bid process if you have an AV company you currently work with and trust. But even in this situation, the month you save by not going through the bid process could easily be used up if your favorite AV company is not available to begin work immediately. My point here is that this all takes time. Theoretically this could be done more quickly but you would be depending on an idealized timetable that can rarely be met.

Replacing your sound system should be looked at as a construction project and like any such project there is likely to be inconveniences and delays. You don't want to put yourself through this type of process very often so consider combining some of the other projects related to the sanctuary with the sound system upgrade. You might find that in order to hang your new speaker clusters you will have to cut holes in the ceiling to gain access to the structure above. Because of this you may want to cover everything for protection from construction dust and dirt. If you have been planning on painting, now may be the time.

If you have been considering replacing your pews with padded seats because you have realized that when people are more comfortable during long sermons, they pay closer attention and because with individual seats you can often increase seating capacity and of course there are the acoustical benefits. Replacing seats and a sound system at the same time makes a lot of sense. Your AV installer will love the freedom to set up scaffolding anywhere they like or to be able to move about freely in a scissor lift. This will lower installation cost.

People so often end up learning as they go instead of bringing in professionals who have the experience to simplify the process. You will be much better off in terms of the cost of your new system, the time the entire process takes, and the quality of the finished system if you seek assistance when making these large-scale decisions.

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