Horizon
SOLUTIONS
audio - lighting - video

Audio System Design Goals

The design goals of a church system will depend to a certain extent on what the congregation wishes to do with the system (speech only, speech plus general purpose music, or speech plus performance music), however we have certain goals all systems need to achieve. The most important component in meeting these goals is the speaker system part. We aim to achieve the following goals.

- **Even consistent sound coverage**, which means a listener can sit anywhere in the congregation area and hear essentially the same volume and tonal quality.
- **High level of speech intelligibility**, which means the listener will understand virtually all the words spoken without having to work hard at listening. Technically, this is accomplished when we can achieve a %ALCONS (the percentage of consonants of speech lost between the speaker and the listener) of no worse than 8% to 10%. (the higher the number the poorer the system) This factor can only be accurately predicted when we know what the room reverberation time will be. We can discover this by using either measurement analysis equipment, and/or by doing some acoustical modeling.
- **Natural tonal quality**, which means the talker heard through the sound system will sound as he does face to face.
- **Freedom from feedback**, which means you will be able to operate the system at a volume level somewhat higher than you would typically ever want to operate it at without running into feedback squeals.
- **Equivalent acoustic space** of about 8 feet, which means the most distant listener will hear the talker about the same as they would were the talker speaking to them from a distance of not more than 8 feet.

If your sound system meets these general goals it will be perceived as a very successful good quality system by virtually all of your congregation. Note however that those that have a personal hearing loss more than an intermediate nature will likely need to use a hearing enhancement system, which we offer as an option.

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