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Diocesan Advisory Committee
for the Care of Churches

INSTALLING A SOUND SYSTEM

Unless planning for one of the cathedrals or “greater churches” the purpose of a sound system should be to provide sound reinforcement and not to provide a public address system. The system should always be designed and balanced to produce sound which appears to come directly from the speaker. It is not helpful for hearing, or understanding what one hears, if it seems as though the speaker is suspended half way up the nearest pillar.

One of the most effective ways to improve audibility is to improve visibility. If you can see the speaker clearly, you will almost inevitably seem to hear him better, and certainly comprehend him better. (Remember that the profoundly deaf may need to lip-read.) However all churches need to make some provision for those who have a hearing loss.

There are two distinct, but interconnected, systems. First, a **Loudspeaker System** to increase the sound levels which will help those who have a hearing loss, but have no need for a hearing aid. It also allows people with quieter voices to take an active part in the spoken parts of the service.

Secondly, there is the **Loop System**, which will enormously benefit those who have a hearing aid with a “T” switch. The great advantage of a Loop System is that the deaf will hear directly without interference, and it will also allow the volume on a Loudspeaker System to be reduced well below P/A levels. The disadvantage of a Loop System is that, once the deaf person has switched to “T”, he will not hear anything unless it is transmitted through the Loop. Anything, even asides and announcements, and, of course, music, must be broadcast through the system.

In a small church, so long as those contributing to the service as readers and preachers and leaders of intercessions, etc, speak up, there may be no need for a Loudspeaker System, but a Loop System is invariably required. Larger churches will require both.

CHOOSING A SYSTEM

AMPLIFIER - The heart of any sound system is the Amplifier. When choosing the amplifier consider that you may require some, or all, of the following facilities, either now or later:

1. Power to drive sufficient line-source loudspeakers to cover all the church, including the choir, and possibly the church hall.
2. Inputs for several microphones - both fixed and radio.
3. Power for the loop system (which requires its own amplifier).
4. Input for the playback of pre-recorded tapes (music/teaching courses, etc) and output for recording tapes (ministry to the house-bound).

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SPEAKERS - Modern speakers need not be unattractive, though they are the most visible, and therefore likely to be the aesthetically difficult, part of the system. They need to be well sited, but as unobtrusive as possible. Chose a colour of speaker which blends into its surroundings, or if need be, have it painted.

Column loudspeakers comprise a vertical arrangement of small loudspeakers within the cabinet allowing the sound to be “thrown” very accurately. It is better to mount the speakers above head height and angled downwards so that the sound is projected further and more evenly.

MICROPHONES - The varied demands of worship may be met with fixed or radio microphones, or a mixture of both. A fixed microphone at the lectern is usually sufficient. However, if the lectern is often moved for different services, and a trailing lead may be inconvenient or dangerous, a radio microphone would overcome these practical problems. This microphone can be left “open” throughout the service to pick up music for the Loop System.

The effectiveness of a fixed microphone at the pulpit will depend on the style of the preacher, and his need to turn while addressing a widely spread congregation. There can also be a visual problem about fixing microphones and goosenecks to beautiful and/or valuable antique woodwork. A tie clip or halter microphone may be better.

At the altar it is possible to use a visually unobtrusive low-profile microphone, but the position of the chosen microphone will depend on which way the celebrant faces; and, if he faces east, what happens when he turns round to address the congregation directly.

Additional microphone sockets may need to be sited at other places; for example, at the minister’s prayer desks, at the font, in the nave for intercessions, at the chancel step for weddings. **It is important that all present use, and also any possible future use, is considered.** Once the equipment has been installed it may define what can and cannot be done. The lack of microphone points in convenient places may prevent changes, such as the occasional use of a nave altar. However, all this equipment can lead to the church looking more like a recording studio. **In the end, one or more radio tie-clip microphones may provide a more versatile and attractive system.**

INSTALLATION - It may be necessary to experiment with the position of the loudspeakers to ensure full coverage without feedback. In order to ensure maximum efficiency and reduce the risk of “hum”, it is unwise to run microphone cables and loudspeaker cables alongside each other for more than 1 metre. Never run cables alongside electrical supply cables, especially where lights are controlled by dimmers, or near organ relay switches.

The amplifier should always be kept in a secure place, such as the vestry, though it may be convenient to have a remote volume control within easy reach of a sidesperson. Microphones and stands are valuable and should always be locked away if the church is left open and unattended.

STEPS TO SUCCESS

1. Think out what your needs are for people with a hearing loss - which is a large proportion of the population, and a problem, which increases with age.
2. Get a specification and quotation of cost from at least two audio experts or firms. Installation (but not alterations) of fixtures (i.e. amplifiers but not microphones) in listed buildings is usually VAT exempt; induction loops are zero rated when supplied to a charity.
3. Consult the DAC Secretary at Church House (Tel: 0116 262 7445) and ask for a visit.
4. Submit a Faculty Application, remembering that the work can be done in stages over several years if funds are limited, but the full scheme needs to be planned at the outset.

WARNING - A sound system cannot improve what is said and is no substitute for preparation and clear speaking, and even rehearsing. Remember, even the most expensive sound system can only be a NILNO system (NILNO = nonsense in, louder nonsense out). However, it will allow more people to communicate more naturally and still be heard by those with a hearing loss.

Further Reading

Sound Amplification in Churches (Second Edition)
Published by Church House Publishing
ISBN 0 7151 7558 0