

Induction Loops and Sound Reinforcement Systems in Churches



General non-technical guidance for Churches thinking about the installation of a "loop" or loud speakers in their Church.

Loop Systems

Loops are specifically designed to transmit audio frequencies so that anyone with hearing impairment can receive the transmissions on their hearing aids; they are inaudible to others. Sound reinforcement systems using loud speakers for the general benefit of the whole congregation are of little use to the deaf.

Like any other transmission system the loop requires an amplifier to adjust the signal strength to match the output required by the receiving equipment. The loop itself is very simply a cable around the space to be served. The number of coils in this cable is best left to the Installer who is to guarantee the performance; as far as the eye is concerned there is little difference. The loop can be at high or low level. In Churches it is frequently found at floor or skirting level. The loop transmits the output from an amplifier. This amplifier is a separate unit from any amplification equipment used for sound reinforcement using loud speakers.

The inputs are provided by microphones or other specialist devices. The choice of how many, type and placement of the microphones is usually limited by the available budget! It always makes sense, when you come to choose, to buy the best kit you can afford. If more than one input is selected a mixer-unit will be required. This handles the various connections from microphones, tape-deck etc into the amplifier.

The rest of the system depends on the character and layout of the church and the size of the budget available. It is fairly common to provide a microphone facility for the pulpit, the lectern and the altar. Almost everyone is familiar with the "stand" microphone which is usually a metal column, of adjustable height, with a removable microphone at its head. The lectern may use a stand or, more likely, a "swan-neck" microphone which, as its name implies, has a shaped microphone connection which clamps to the lectern. Other forms of these two types have varying degrees of adaptability available such as flexible metal tube connections or pivoted heads for ease of adjustment. Most of them also cater for the microphone to be readily removable for hand use. The microphone for the altar would need to be more discreet and of much smaller size. Unlike the others it will not normally be used for any other purpose.

Stand microphones, with flexible leads, frequently get in the way, eg when they are centrally placed and have to be moved to make room for communicants coming forward. Similarly with lectern microphones when portable lecterns are moved about. The usual practice is to provide a radio-microphone that can be clipped to a lapel etc. In this way a speaker can move about without the need to carry a microphone or deal with trailing leads. Radio microphones transmit to a small receiver with a short aerial. This provides the input to the amplifier. The aerial should be well clear of any structural steel-work as its proximity can cause problems with the signal pick-up.

It is a sad fact but in these days, of light fingered visitors in open Churches, it is essential to have some means of storing highly portable items of expensive equipment in a suitable secure space. This situation is eased by the use of "jack-plugs" and extension connectors so that equipment can be speedily removed and stored along with any extension leads. It is also useful to consider the installation of one or two extra jack-plugs in places where it may be convenient to have the use of a microphone that can be plugged in temporarily, eg at the West end of the Church for making announcements; near the font for use at baptisms and so on. If there is any likelihood of performances or recitals being held then more detailed thought will have to be given to the provision. It is always possible to arrange temporary facilities for special events, so long as there is a power source available.

The form of storage for loose equipment will be of interest to the DAC. Any provision must be in keeping with the character of the building. On this count it is good practice to arrange cable runs etc with the Church Architect and the Contractor, to preserve the character of the Church.

Sound Reinforcement Systems

With regard to reinforcement of sound, by the use of loud-speaker systems, this will require a separate amplifier to that for the loop; they both perform quite different functions. The size, shape and acoustic properties of the Church will dictate the power output of the speakers and the number, type and placement of each one. This is a matter for detailed expert guidance which should be left in the hands of whoever will carry the guarantee for the performance of the completed system.

The style of speaker, the colour and finish should be in keeping with the character of the Church. Mounting height should be agreed in advance. Churches with balconies present their own difficulties which can all be agreed with the Installer. The main contention is usually about the camouflage of the cable connections to the units. These should be unobtrusive, concealed where feasible and matched to the background when this is not possible. There is a wide choice of speakers from short fat black ones to long thin white ones. Speakers are available in expensive wood finishes and in cheap plastic cases. Every installation carries its own requirement which cannot be covered in this note. Suffice it to say that whatever is to be used must be clearly agreed by all parties before work commences.

Listed Buildings in particular and other Churches in general should adopt non-invasive brackets wherever possible. This will reduce structural damage as far as practicable, by the use of clamp type supports rather than drilling holes in ancient structures.

General

Either a loop or sound reinforcement system can be installed on its own. Either can be added to the other if one of them already exists. The same microphones can be used for a combined system and extra mixers can be installed to cater for a greater number of inputs to the amplifiers. Equipment must be readily accessible for cleaning, maintenance and repair.

Amplifiers will require a power connection, preferably by a fused spur unit from the mains supply protected by "safety trip" (such as a residual current device). Your electrical contractor or sound specialist will advise on the details of this. It is absolutely essential that any power source for recitals etc be protected in this way. All electrical installation work should be carried out by registered electricians in accordance with "The Regulations for Electrical Installation" issued by the Institution of Electrical Engineers. Sound or loop systems and equipment are generally best installed by specialist suppliers.

Before acceptance, systems should be tested on completion in normal operating conditions. This is preferably done under the guidance of the Installer, who can adjust the system and give instruction in its care and use.

VAT is not levied (at this time) on the cost of loop systems as they are regarded as provision for a disability. It is worth enquiring if there is any advantage in carrying out both loop and sound systems together. Some Local Authorities may offer discretionary grants for loops in Churches, it is worth enquiring.

Suppliers

This is not an "approved list" for all occasions but a list of reputable specialists, in and around the Diocese of Carlisle, who have previously carried out satisfactory work in Churches. It may be a useful starting place for anyone who is not familiar with this type of installation: This is not a definitive list but merely an aid to those Churches that have not previously had any dealings with sound systems. There may be other specialists within the locality of any Church wishing to proceed with a scheme.

Audioworks, Lingber, Springfield, Bentham, Lancs - Tel: 015242 61628

Reelife Recordings, Laverick Hall, Halton on Lune, Lancs, LA2 6PH - Tel: 01524 811282

Northern Sounds, 13 Oxford Street, Workington, CA14 2AL Tel: 01900 604797