

DAC Guidance Notes: Heating, Lighting and Sound

These guidelines cover general information regarding church heating, lighting and sound systems (including audio-visual installations).

Church heating and lighting

Lighting can do as much for a church interior as redecoration. As well as providing enough illumination to read, sing and move about easily and safely, it is a major force in creating an atmosphere for worship (often one of the most under-estimated).

As such, any scheme should show off the main focal points of the liturgy, allow variation depending on the type of service or activity underway, and draw the senses to the most lofty or elegant features offered by the design of the architect.

General guidelines are to:

- hide the source of the light unless it is a particularly attractive pendant fitting;
- do not allow pendant luminaires or chandeliers to obstruct important lines of sight;
- always remember to allow easy access to replace bulbs or clean glass envelopes of light fittings;
- conceal cabling, but do not have it fixed into historic stonework – fix into mortar joints instead.

The DAC will need to know what is unsatisfactory with the present situation, which and how many fittings will be installed, how they will be fixed, how they blend or contrast with their surroundings, and which specialists will be involved in installation. Confirmation of insurance cover during electrical work is also desirable.

Exterior lighting should be weather-proof, protected against attack by vandals and, ideally, show off something of the character of the building as an attractive landmark as well as giving added security. The needs of the DAC in gauging whether to support an exterior lighting proposal are similar to those for interior illumination. Further information can be found here:

[Churchcare: Church Floodlighting](#)

Church heating can be by oil- or gas-fired boilers warming water to supply radiators, or by high-mounted radiant electric elements, or by blown hot air. Each has benefits in its own scale of space, but none is without drawbacks over time.

Generally, a heating engineer should be able to design a fitting scheme with input from the church architect. Radiators (water or electric) may require judicious siting so as not to catch the eye, or be colour-matched to their surroundings, or be encased. In all circumstances, installations should sympathise with the local setting and damage to historic fabric should be avoided. The noise of operation and the costs of installation versus those of running are issues to balance when approaching a new heating project. Further information can be found here:

[Churchcare: Heating your Church](#)

Church sound and audio-visual systems

A building and its sound system go together. While it is possible to decide on a specific system by listening to a number of installations in other buildings, individual churches should make allowances for the layout and scale of their own interior space, its materials, and what furnishing or carpets/curtains occupy it. It is also relevant to consider how large, on average, the congregation is, as people are very effective absorbers of sound.

Ask a supplier or installer to arrange a sound test of desired, specific equipment in your own church. It is also important to secure more than one quotation and consider professional installation as well as supply.

Cables should be pinned or otherwise fixed into vertices and mortar joints of stone or brickwork rather than onto its face. Cable runs should be concealed using cable-sheathing colour-matched to the part of the building to which they are attached.

The colour or fabric on any loudspeaker cabinets should match its surroundings, especially when that includes stone or brickwork. Speakers should not distract the eye along main sightlines.

Any monitoring or mixer equipment should also be accessible (for adjustment while the system is in use) and thought should be given to flexibility for reconfiguration in future years. There should also be protection against the dangers of theft, vandalism, accidental damage and trip hazards. Training in the best use of the equipment might also be necessary.

When submitting a petition for a sound system to the DAC, you will need to include the technical specification of the system, any quotations, and a brochure (or photocopied extract) showing the appearance of the equipment, ideally in colour. Photographs of the church interior at present should also be included, annotated to show where major components will be sited and of any sites of intrusion into building fabric. Lastly, a floor plan should be included, marked to make equipment locations clear. Further information can be found here:

[Churchcare: Sound Systems - a checklist for buying a sound system](#)

For audio-visual systems, the PCC should experiment to some degree with the use of moveable equipment to establish the best position for visibility. The church inspector, a competent audio-visual expert, potential suppliers of audio-visual equipment and the members of the congregation should be consulted very early on in any AV project.

The PCC should consider carefully the siting of the projector screen. If placed behind the chancel arch, there need to be measures in place to make sure that the screen is not visible when not in use, that it does not cut off the East window, that it is not obscured by light from behind, and that it does not cause a sense of intrusion when services are focussed at the chancel steps. If the screen is to be mounted on the floor, on a column or in a side aisle, the PCC must decide whether the mounting will be permanent or temporary, taking into account the issues of reversibility and wear to the church fabric.

On fixing the projector, the [Unicol](#) system is preferred to fixing into stonework or a wall. A single bar from the roof timber or similar is best as it interferes least with the building fabric. Otherwise, a collar around a capital would still be visually acceptable provided its colour is chosen to blend against the stone/brick background.

On siting the projector and equipment to run the system, consider health and safety issues, security and wiring runs. A wireless system may be suitable. Also, bear in mind the complete integration of equipment to be used (such as DVD, VCR, and sound- and audio-loop systems). Installation should not be 'piecemeal' and a system should be put in place that is capable of being developed with more equipment in a neat and attractive way.

Consideration should be given to the position of AV systems so that, when used for talks, sermons and so on, the speaker is not isolated from the viewers and is able to use remote controls effectively. This will also have a bearing on screen locations. Infra-red controllers can be temperamental, but working direct from a wired laptop computer using a mouse will restrict the positioning of the equipment in relation to the speaker. Wireless technology is helpful, but it can interfere with hearing-aid reception when in close proximity.

The associated wiring will also raise a Health & Safety issue. Its permanent fixing to the fabric should be assessed by the church inspector. In cases where permanently-fixed wiring is not appropriate, a balance must be found between a completely loose temporary setup and a semi-permanent installation, with cables concealed and anchored whenever possible.

Finally, the principles that the DAC bear in mind when assessing applications to install AV equipment are as follows:

- In the Care of Churches and Ecclesiastical Jurisdiction Measure 1991, the DAC does not have a role in commenting on the propriety of the use of digital projection in worship. It will only comment on the technical aspects of installation and the way that screens and projectors might affect the fabric and aesthetics of the church.
- The DAC advises that any installation of this kind should be reversible. Modern equipment does not always fit in with the fabric of a historic building, so the equipment must be appropriately chosen, create as little damage as possible, and be easily removable. It should also be borne in mind that this technology is constantly changing and developing, and will require upgrading in the future.
- In principle, the DAC would support requirements that every screen or its keeper must be retractable in such a way so that it could be moved out of view. However, repeated movement of a heavy screen can in itself be a cause of damage to the church fabric, and this should be borne in mind.