



The acoustic properties of a building, as well as the specification of hearing enhancement systems and lowering levels of background noises can improve overall enjoyment within a building, especially for people with hearing impairments; people with sight impairments will also benefit as they will be able to hear to lift bell or footsteps informing that someone is approaching.

Noise reduction:

- Areas where communication is important, such as at the reception desk or meeting room should be located away from potentially noisy areas (e.g. skittle alley). The location of other rooms which may be used for confidential meetings or consultations should also be sighted carefully and it may be worth considering extra sound proofing or insulation.
- Quiet and noisy areas should be separated by a buffer zone.
- Avoid too many hard surfaces, which cause difficulties for people with hearing impairments.
- Heating units should be chosen with a view to minimising background noise; they should also be serviced and maintained to reduce levels of noise.
- Air conditioning units and extractor fans create significant background noise; they should be serviced and maintained to reduce noise due to wear.
- The main power supply cable to a building generates a considerable magnetic field, and it can make a loud hum in hearing aids. The cable should be routed away from the main public spaces.
- Computers, overhead and slide projectors and some lighting units, can create background noise and hums, and they can also interfere with hearing aids.

Hearing enhancement systems:

- Part M requires that hearing enhancement systems be installed in rooms and spaces designed for meeting, lectures, classes, performances, spectator sports and films and at service counters and reception areas. An induction loop or infrared system should be indicated by the standard symbol and be displayed where it can be seen prior to and as entering the building.

Induction loops:

- Induction loops convert sound via a microphone into a varying magnetic field, which is then converted back to amplified sound by an individual's hearing aid (where a 'T' switch is fitted). Loops help to cut out extraneous background noise.
- Induction loops should be fitted wherever information is given verbally to the general public. For example, in churches, village halls, post offices, ticket counters.
- Some systems allow the sound to be picked up from an adjoining room (called overlap) and this can be a problem when confidential discussions are taking place or in places like multi screen cinemas. Large amounts of metal in a building can have a negative impact, along with masts and surrounding valley or hills. **Therefore it is essential to seek technical advice from induction loop manufacturers and registered installers. A newly installed system must be checked to ensure that is fully operational and any instructions for use must be readily available to all users.**

Infrared systems:

Infrared systems work on different principles by converting a sound source into an infrared light signal and require special receiving headsets. This system is more suitable for controlled areas such as cinemas, theatres and lecture rooms, where headsets can be borrowed from a central source. The system is of particular value where confidentiality is important. As the technology is based on light, sound cannot be picked up outside the room in which the infrared signals are generated. It cannot be used externally.

FM radio systems:

These systems can be used in situations where a loop, infrared or sound reinforcement system is not available. Using a license exempt FM radio link, the transmitter and receivers are lightweight and compact and can be worn under clothing. Receiver units have a thumb wheel volume control, and both units have power 'on' indicators. The systems can be used with a supplied earphone/headphone or with a neckloop (hearing aid switched to 'T') for extra seclusion and clearer sound. The range is up to 30m. This type of system is particularly suitable for training and educational purposes.