



SOUND MASKING

For Libraries

Today, libraries serve many functions. They provide the community with access to computers and media rooms. They host activities such as workshops, meetings and social gatherings. And they also retain their core role, which is to provide patrons with reference materials and a comfortable environment in which to read, write and study.

Unfortunately, these activities don't always mix well when it comes to acoustics. At the same time, the demands created by these new uses make it more challenging for staff to enforce a policy of silence. In any case, even if patrons try to keep conversations and unnecessary noise to a minimum, any noises that remain in the space are there by necessity and must be addressed through design.

However, the predominantly open environment also poses challenges to conventional noise control methods. Though areas may be allotted to particular activities, they might not be large enough to accommodate the number of patrons who want to use them or they're located next to areas in which other types of activities are taking place. Even closed rooms don't necessarily provide the expected level of noise isolation.

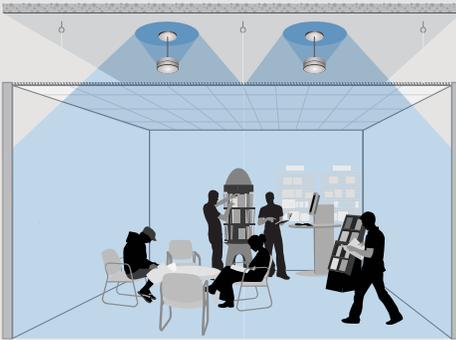
Conversations and noises are disruptive to patrons who are engaged in tasks that require concentration. Speech privacy is another acoustic concern because the library houses its business operations. Privacy is required for discussions involving staff, security, patron-related issues, financial information and other sensitive topics.

Creating an effective acoustic environment can help marry traditional uses with new and ever-expanding services, and ensure the facility is well-suited to the demands being placed upon it.



Meet Amanda.

She's working on an important research paper, but the conversation going on in a nearby area keeps disrupting her train of thought. She's just about to start reading the same chapter for the third time.



The LogiSon® Solution

The LogiSon Acoustic Network distributes a soothing background sound throughout the facility. Though most compare this sound to softly blowing air, it's actually designed to mask the frequencies in speech, increasing privacy and reducing disruptions. It also covers up incidental noises that would otherwise impact comfort and concentration.

The system's loudspeakers are typically installed in a grid-like pattern in the ceiling. Small zones and fine control over both volume and frequency allow the masking sound to be customized to local conditions, ensuring that it's comfortable and effective across the entire space. And because control is networked, this level of performance is easy to maintain.

The system can also distribute paging and music. Its high level of component integration dramatically reduces the costs, energy and space requirements typically needed for audio equipment. Custom page zones can be created and changed on demand.

Benefits include:

- Improved noise control
- Increased speech privacy
- Improved concentration
- Paging and music functions
- Lower project costs
- Facility flexibility
- Quick ROI

For more information about the system's advanced features, see our brochure or contact your local LogiSon Representative.

The Quest for Silence

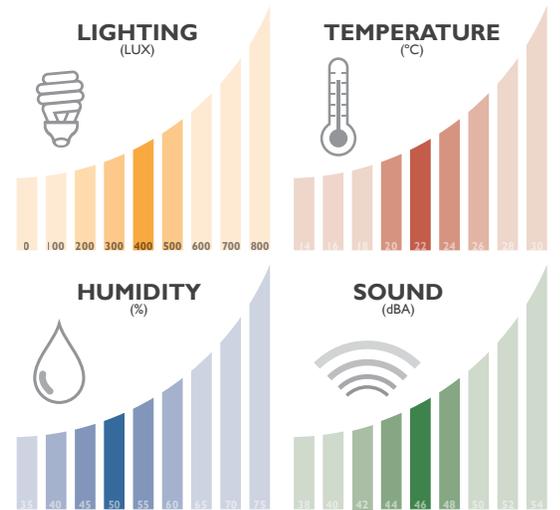
The importance of providing a quiet setting is personified by the image of a librarian raising her finger and whispering 'Hush.'

However, the 'pin drop' environment associated with libraries actually isn't the best for acoustic control. Though well-intentioned, it's impossible to eliminate all noises from a busy environment. Furthermore, the more silent one tries to make a space, the louder the remaining noises seem to occupants.

This phenomenon can be attributed to the fact that an effective acoustic environment relies on the provision of an appropriate *noise floor* or level of continuous background sound.

If the noise floor is too high, the environment is irritating and tiring. If it's too low, conversations and noises are easily overheard, compromising both privacy and concentration. A low noise floor also means that conversations can be clearly heard from afar; voices may carry intelligibly over a distance of 9 - 15 meters (30 - 50 feet) or more.

In other words, just as with other ergonomic factors, such as lighting, temperature and humidity, there's a **comfort zone** for the volume of sound – and it isn't zero.



Case Study

NATIONAL INSTITUTES OF HEALTH LIBRARY • Bethesda, Maryland • USA

Founded in 1887, the National Institutes of Health Library (NIH) forms part of the United States Department of Health and Human Services. The NIH is the federal focal point for medical research in the United States and one of the world's foremost medical research centers. Its goal is to acquire new knowledge to prevent, detect, diagnose and treat diseases and disabilities, from the common cold to the rarest genetic disorder.

Problem

A frequently used training room is located immediately adjacent to study tables, reference areas and carrels. Whenever a conference or training session was in progress, the voices and other noises coming from this room disturbed patrons using the reference/study area, even when the room's door was closed. Because the ambient levels in this area were low (36 to 38 dBA), conversations occurring in the immediate area could also be overheard, causing even more distractions.

The area features a low-level absorptive ceiling and 2 x 4 foot light fixtures with



acrylic lenses. The training room's walls do not extend above the suspended ceiling and are hard surfaced. The floor is carpeted to reduce footfall and the bookshelves hold reference materials, which provides the space with some measure of absorption.

Solution

The LogiSon Acoustic Network was installed throughout the reference/study area. It increased ambient levels to about 46 dBA. Noises originating in the training room are less disruptive to users of the reference/study area and conversations are less disruptive within this area as well.