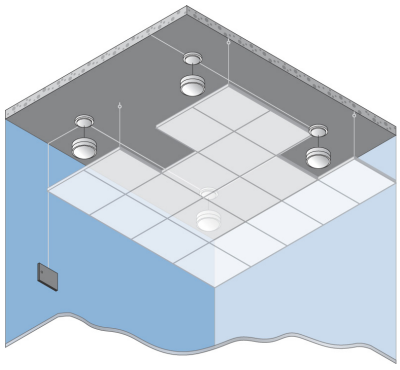
RETROFITTING SOUND MASKING

The scenario: an organization eagerly moves its employees into a new facility only to be met with frequent complaints regarding speech privacy and noise levels. There can be many reasons for this type of malfunction, but the question's always, "Now what?"

What's clear is that these weaknesses must be addressed in order to prevent further impact on occupants' comfort and productivity. But key questions remain:

- **What treatments will help at this point?**
- **What's our budget?**
- **What degree of operational disruption can we weather while solutions are implemented?**

Though a combination of strategies is needed to achieve the best results, more often than not, what's missing from such a space is an appropriate ambient – or background – sound. This requirement can be met by installing a sound masking system.



Sound masking technology consists of a series of loudspeakers installed in a grid-like pattern in the ceiling, as well as a method of controlling their zoning and output. The loudspeakers distribute an engineered sound, maintaining the facility's ambient level at an appropriate and consistent volume. Though the sound is similar to softly blowing air, it's specifically designed to mask the frequencies in speech. It also covers up other noises or reduces their disruptive impact on occupants.

In some cases, sound masking will not be the only improvement necessary to correct deficiencies in acoustical performance; however, in others, even when the ideal includes a variety of approaches, sound masking will be the most practical solution to retrofit. Here's why:

Budget considerations

First, budget pricing for a sound masking system is low, particularly relative to other acoustical treatments. It's typically $1-2 per square foot, depending on project conditions. Furthermore, a separate paging and background music system isn't required because most masking systems provide these functions over the same set of loudspeakers. Contemporary systems require minimal space for below-ceiling equipment. The additional electrical load and cost of operation are also negligible. Organizations can relocate the system to future facilities, extending its useful life.

Ease of installation

Second, sound masking is typically less disruptive to apply to an already occupied workplace than other treatments. For example, installing a suspended ceiling in an occupied space involves not only the cost of the tile, but modifications to the lighting, HVAC, sprinkler system and more. Furthermore, certain acoustical interventions may not be possible to implement in some facilities, due to the structural changes involved (e.g. historic properties) or the noise and operational disruption that accompanies their installation (e.g. hospitals).

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By comparison, sound masking components are small and the installation process tidy. They can typically be installed without conduit in most jurisdictions. The work can be handled discretely after hours or with only minor disruption to occupants during regular hours. There are few requirements for power tools, making the work relatively quiet, and unless the ceiling is unusually high, only ladders are needed to gain access.

Application in open & closed spaces

Third, sound masking can not only be used to improve acoustics in open plans, but to increase privacy for closed spaces such as private offices and meeting rooms. Unlike closing the ceiling or extending walls to the deck, masking has no impact on other building systems. It also continues to function when the room's door is open and the acoustical isolation it provided virtually disappears.

Furthermore, because sound masking works 'at the ear of the listener,' it's also effective against noises or conversations regardless of how they find their way into the room and may, therefore, eliminate or reduce the need to address other acoustical pathways between spaces (e.g. sealing gaps between the walls and window mullions). This quality also makes sound masking a potentially effective tool against noises originating from outside the building.

Implications

There are some implications of retrofitting a sound masking system rather than including it in the original design. For instance, the cost to install may be slightly higher than in new construction due to the increased labour requirements necessary to gain access to the ceiling, work around furnishings and potentially work after hours.

More importantly, by waiting to install masking post-occupancy, an organization may forgo opportunities to reduce construction costs or the requirements for other acoustical treatments. For example, when designing with a masking system, many organizations find they are able to build walls only to the suspended ceiling rather than deck-to-deck. The project team might also make different choices with respect to ceilings when planning with masking.

In retrofit situations, it's essential to select a masking system that offers a ramp-up feature like the LogiSon® Acoustic Network. It introduces the masking sound at a level near the existing ambient volume and progressively increases it over a period of up to 15 days, allowing occupants to gradually acclimatize to their new acoustic conditions. This feature can also be programmed to begin on a specific date.

Over a short period of time, the sound becomes a natural part of the environment. In fact, if handled after hours, occupants are often unaware that the system's been installed. Full effectiveness is achieved once the masking sound has reached its final level.

We welcome the opportunity to discuss your acoustical concerns. Contact us today!