

PROJECT CONTROL > SOUND MASKING



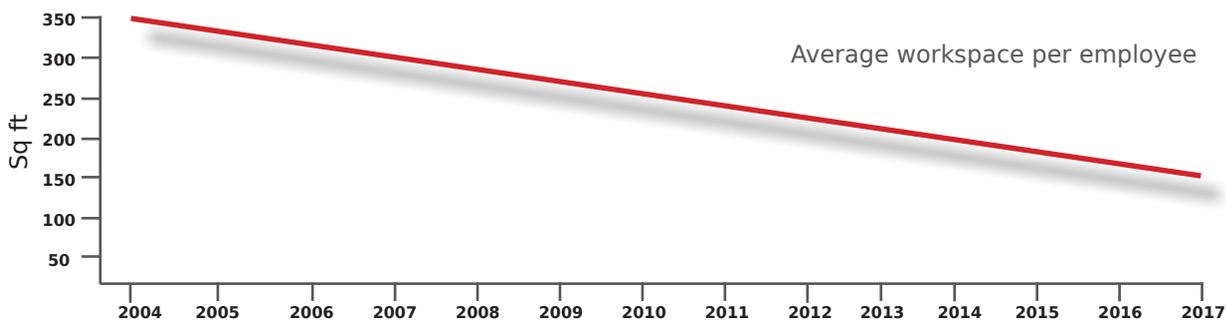
molex[®]

WORKPLACE SPEECH PRIVACY > SPECIALISTS

What is the workplace speech privacy crisis?

The rising cost of real estate and a need to support organisational growth means the office landscape is changing, with the trend now being towards densification. Companies are restructuring their current facilities rather than acquiring new premises and traditional office design that might have included private offices along the walls with cubicles taking up the open space in the middle, is being replaced by communal tables and smaller work clusters. In 2004, the average workspace per employee was approximately 350 sq ft. In 2017 and beyond the average workspace per employee is expected to be less than 150 square feet.

This trend meets the needs of the business but it causes employee dissatisfaction due to the lack of speech privacy and increased distractions. Low / no cubicle partitions, while great for collaboration, do nothing to block the sound of your neighbor talking loudly to their clients or colleagues. Glass walls and windows give an open, modern feel but they reduce sound absorption meaning conversations reflect off them, increasing the radius of distraction.



What's the solution?

The Cambridge sound masking system from Molex is a great alternative to building higher cube walls or adding expensive sound absorbing materials to the space. Sound masking has been around since the 1950s and it is the process of adding a low-level, unobtrusive background sound to an environment to reduce the intelligibility of human speech and noise distractions in that environment. Cambridge Sound Management began in 1999 and in 2001, CSM patented the only direct field sound masking system on the market today.

While it may sound counter-intuitive to quieten an environment by adding sound, it works because the introduced masking sound is specifically tuned to the frequencies of human speech to cover up or 'mask', excess speech noise. In doing so, it makes the acoustic environment more comfortable. Sound masking doesn't cancel speech; it simply shortens the distance from which someone speaking can be intelligibly understood. In a typical office environment, speech will travel 30-60 feet but with sound masking, that distance is usually less than 15 feet. With sound masking, an employee might still hear that a conversation is occurring but they can't understand exactly what's being said, which means the conversation is easier to ignore and is less distracting.



Is your business compliant?

More than just a distraction to individuals or an expense to employers, a lack of speech privacy also means that employees can overhear conversations they shouldn't. The trend towards office densification means that as walls to private offices become thinner, closing a door no longer guarantees speech privacy.

Indeed, it could even be worse because a closed door can create the illusion of privacy. Clearly, this presents a potentially serious HR issue when sensitive or confidential conversations are overheard by the wrong people.

It can even be illegal to provide insufficient speech privacy:

- Offices where medical information is shared; conversations between doctors and patients, where privacy is paramount in order to remain legally compliant
- Regulated environments such as the Finance industry in which it is a requirement to protect clients' non-public financial information
- The privacy of a student's education records is a legal requirement in some countries

Failure to protect sensitive conversations from being overheard can be illegal and potentially a huge liability for the company affected.

Who should deploy sound masking?

Sound masking is important for any environment in which co-worker noise pollution is a distraction or where there is a requirement to keep conversations confidential. From healthcare and financial institutions to legal, government and commercial offices, sound masking provides an unobtrusive and highly practical solution to speech privacy.

Project Control *Multi-site projects made easy!*

It's a reality that dealing with multiple vendors and contractors can mean a project owner loses time in their day that simply cannot be recovered.

Add to that the capabilities void that's left behind when IT and Facilities personnel are seconded to IP infrastructure builds and you'll perhaps recognise some familiar issues.

These are just two of the reasons we've developed **Project Control** to provide a unique turnkey project management solution for organisations with IT infrastructure deployment programmes across multiple sites.

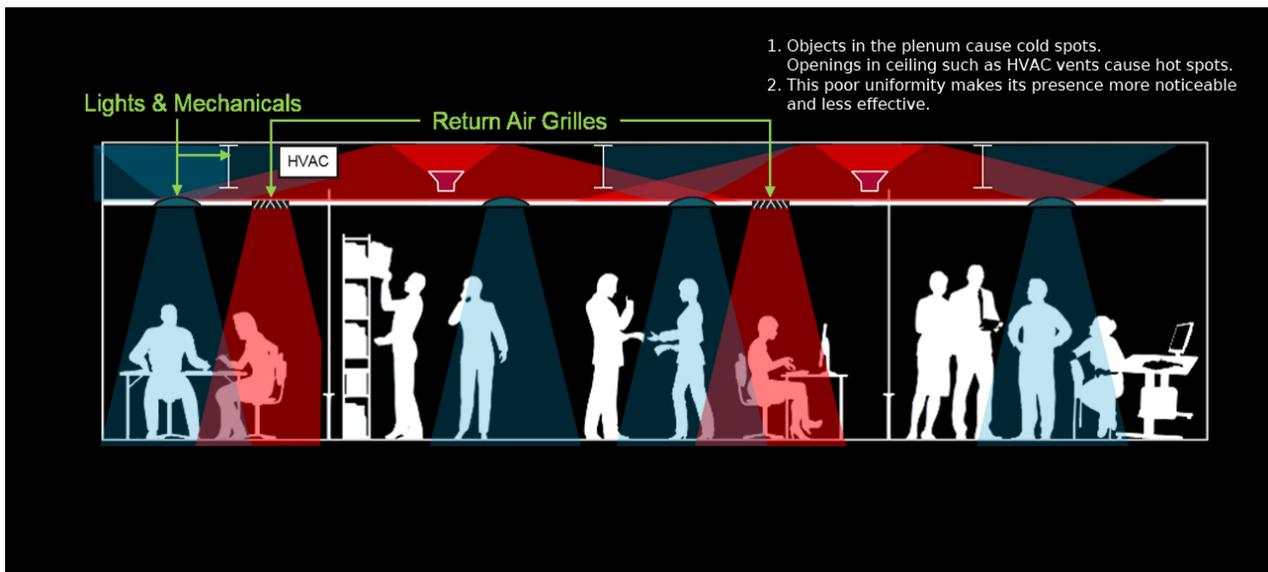
Project Control enables a single point of contact for all of your projects, no matter their location and our proven project management methodology gives you access to live project status updates for each of your sites, 24-7.

From consultancy and design through to vendor management and installation; our fully-accountable service includes staging, commissioning and IP rollout services.

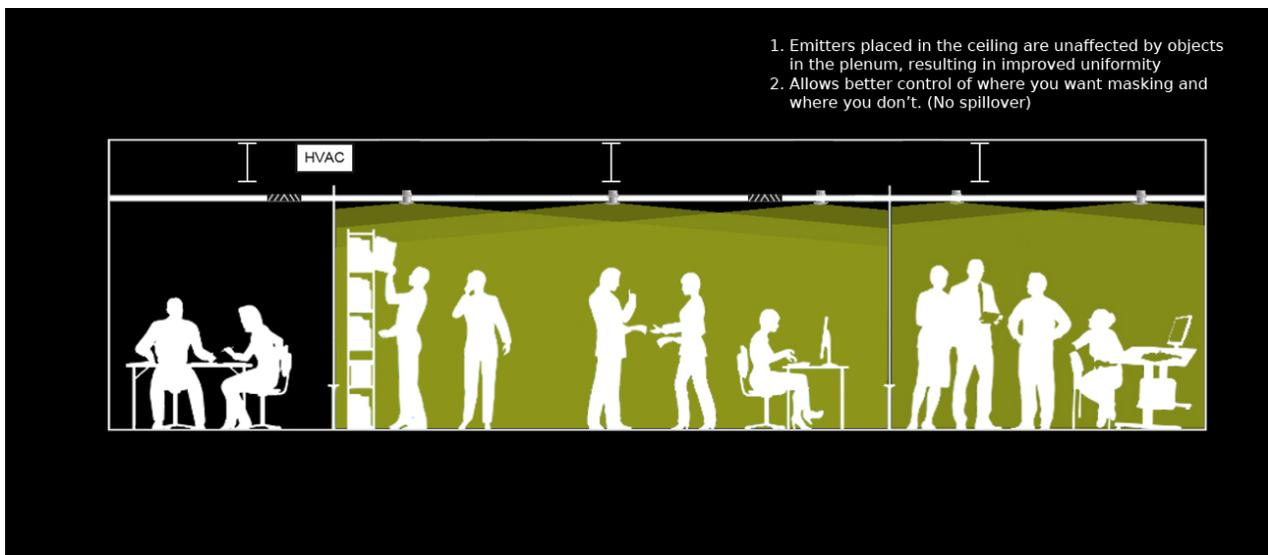
Project Control provides a flexible turnkey service, which helps you recover time lost, enables better deployment of internal resources and instantly creates clarity from complexity.

DIRECT-FIELD > SOUND MASKING

The direct-field difference...



With 'in-plenum' sound masking systems, speakers are hidden and sound is reflected off the ceiling. This often results in non-uniform masking and 'cold spots' due to physical obstructions in the plenum space, such as lighting, HVAC, mechanicals etc.



With a Cambridge sound masking system from Molex, emitters placed in the ceiling are unaffected by objects in the plenum, resulting in improved uniformity and coverage. This allows better control of where you want masking and where you don't.



Sound Masking: The importance of proper zoning

It's important to zone an office space correctly if an ideal sound masking level is to be achieved. The system should be flexible enough to accommodate varying architectural spaces, considering the room size, ceiling height, ceiling type, furnishings, acoustic treatments and more, while also changing levels to provide a consistent sound field. This is done by splitting the system into smaller zones, so that spaces with similar acoustics can be grouped together and the system can be set for each environment.

The example below shows an open office layout, private offices, and corridors, each of which are zoned separately. These three environments are acoustically different, which makes it important to be able to adjust the masking for each space without affecting the other zones. This doesn't mean micromanaging every couple of speakers, of course - a good sound masking system will deliver consistent sound directly into each acoustic space, while still allowing for similar spaces to be grouped together as zones.

As uniformity is the name of the game, end-user control is hardly ever necessary or recommended. Most employees won't even notice the sound masking system and once installed it should require about as much routine maintenance attention as the exit signs.



FUTURE-FOCUSED > TODAY

Advantages of the Cambridge QT Quiet Technology System are:

It's the only 4 channel sound masking system on today's market

The system comprises four entirely separate incoherent channels from source to emitters (loudspeakers). Four channels simulate the turbulent air eddies characteristic of HVAC system air movement sound generation. This delivers an entirely natural and unobtrusive sound. Users are not subjected to the harsh sound quality so common with plenum-based masking systems.

It provides the optimum spectrum

The spectrum provided by the system is delivered uniformly throughout the coverage area. Direct field technology means the spectrum is not distorted by the transmission loss characteristics of the ceiling assembly or the acoustical spatial variance in the above-ceiling plenum space. Although typical plenum masking systems may appear to exhibit fair uniformity as measured by A-weighted sound pressure level, their variation within the critical speech bands far exceeds that routinely provided by the Qt Quiet Technology sound masking system.

Low operating level

The spatial and spectral uniformity delivered by the Qt Quiet Technology sound masking system lets it operate at substantially lower sound levels than other systems while maintaining masking effectiveness. While many masking systems must operate at 48-50 dBA in a well designed open plan office in order to provide acceptable privacy conditions for most occupants, the Qt Quiet Technology sound masking system is normally operated at 45 dBA under the same conditions. The result is dramatically reduced acoustical obtrusiveness and user awareness of the system.

It offers truly independent control of sound masking in open and closed office areas

A common issue in many offices is that the above-ceiling air plenum is common to both open and closed offices or conference rooms. For reasons of economy the separating walls often do not extend more than an inch or two above the suspended acoustical tile ceiling. When masking is delivered to the open area at an appropriate level, sound in the closed office typically builds up to excessive levels, even if there are no masking loudspeakers above it. Until now, the only solution was to "starve" the adjacent open area.

With Qt Quiet Technology, the masking sound intended for the open office is entirely restricted to the open area. If masking is desired in the enclosed space a separate zone can be provided, with completely independent control of level.



Control Module: Qt 100™

- 1 Zone
- 120 speakers per control module
- 12,000 ft² (1,114.8 m²)
- Front panel LCD control
- Optional Bluetooth Configuration
- 1 audio input for paging or background music
- Wall mounted



Control Module: Qt 300™

- 3 Zones
- 120 speakers per zone
- 12,000 ft² (1,114.8 m²) per zone
- 360 speakers per control module
- 36,000 ft² (3,344.5 m²) per control module
- 2 audio inputs for paging and/or background music
- Multiple control options
- Integration with emergency alarm systems
- Real-time clock provides software features (off network)
- Wall or rack mounted options



Control Module: Qt 600™

- 6 Zones
- 120 speakers per zone
- 12,000 ft² (1,114.8 m²) per zone
- 720 speakers per control module
- 72,000 ft² (6,689 m²) per control module
- 2 audio for paging and/or background music inputs
- Multiple control options
- Integration with emergency alarm systems
- Real-time clock provides software features (off network)
- Wall or rack mounted options



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