

Sound Masking

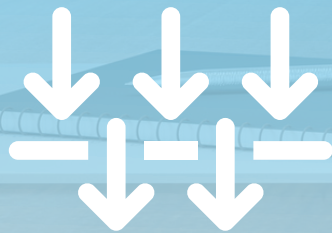


from **TenA**
Expert **Technology** Solutions

Introducing... **Sound Masking**

SOUND MASKING IS A CRITICAL COMPONENT OF ACOUSTIC DESIGN

When designing an optimal acoustic environment, architects consider a variety of elements to address noise control and speech privacy. Elements added either absorb, block, or cover sound, and are collectively called the ABC's of acoustic design. All of the ABC's of acoustic design can be used together or individually to achieve the desired acoustic environment, but absorbing and blocking materials are costly and underused. Sound masking, on the other hand, is a low-cost option for creating acoustical environments that both reduce noise distractions and increase speech privacy.



ABSORB

Acoustic wall panels, carpet, and ceiling tiles help absorb excess sound



BLOCK

Solid barriers, partitions, and walls help block excess sound



COVER

Sound masking helps cover distant conversations

Why Do You Need Sound Masking?

1

OPEN FLOOR PLANS

Most workplaces today feature more openspaces and smaller, and often shared,workstations.

Fewer sound blocking and absorptive materials are being used such alower or non-existent partitions, hard or glass surfaces, and thinner walls and doors. This creates acoustical challenges that negativelyimpact workplace satisfaction, productivity, and speech privacy.

2

WORKER SATISFACTION

Approximately 24,000 office workers in private offices, shared offices, cubicles, and open offices were asked to rate their satisfaction with their noise and speech privacy levels. Those with private offices were the only ones satisfied with their speech privacy, and even they only rated them a .55 out of 2 on average.

3

SPEECH PRIVACY

What is speech privacy? Simply put, it's the inability of an unintended listener to understand outside conversations. The Center for the Built Environment in Berkeley, California, surveyed more than 25,000 workers in more than 2,000 buildings to determine what the key environmental issues were for workers.

Of all of the factors workers encountered in their environment, speech privacy was far and away the factor they were the most dissatisfied with.

and here's **3** more reasons...

Why Do You Need Sound Masking?

4

PRODUCTIVITY

Employees are interrupted once every 11 minutes according to research from UC Irvine, and it takes them up to 23 minutes to get back into the flow of what they were doing before they were interrupted.

5

SAVE MONEY

A recent study presented to the International Congress of Noise as a Public Health Problem, found that, on average, employees wasted 21.5 minutes per day due to distractions.

This adds up to big monetary losses for companies. 21.5 minutes daily is roughly 4% of an average employee's work day (based on an 8 hour day). A company with 100 employees and an average employee salary cost of \$50,000 is losing \$200,000 a year in lost productivity.

6

CONFIDENTIALITY

What is speech privacy? Simply put, it's the inability of an unintended listener to understand outside conversations. The Center for the Built Environment in Berkeley, California, surveyed more than 25,000 workers in more than 2,000 buildings to determine what the key environmental issues were for workers.

Speech privacy was far and away the factor they were the most dissatisfied with.

100 EMPLOYEES X \$50K (AVERAGE SALARY COST) X 4% = **\$200K**

Who Benefits From Sound Masking?



BUSINESS OWNERS

Protect speech privacy and increase productivity by reducing noise distractions



FACILITY MANAGERS

Help increase worker satisfaction and reduce operating costs



PROPERTY MANAGERS

Increase the value of your space



HR MANAGERS

Comply with speech privacy requirements



EMPLOYEES

A more comfortable work environment with fewer distractions



ARCHITECTS

Improve the acoustical environment of new or retrofitted spaces

Sound masking is also used by healthcare managers, general consultants and contractors...

Where Should Sound Masking Be Used?



CORPORATE

Open Office, Private Office,
Outside of
Conference Rooms



TECHNOLOGY

Engineering and Research
Labs, Co-share Spaces,
Huddle Rooms



EDUCATION

Libraries, Classrooms,
Testing Centers



HOSPITALITY

Hotel Rooms, Reception
Areas, Spas



HEALTHCARE

Hosps and Clinics, Offices
and Counseling
Areas, Pharmacies



FINANCE SERVICES

Retail Banks, Call Centers,
Board Rooms



GOV & LAW


Secured Facilities,
Courtrooms, Law Offices



VENUES

Airport Lounges, Houses of
Worship (Back Office),
Conference Centers

...but there really is **NO LIMIT** as to where sound masking can be used!



***"I absolutely, wholeheartedly
advise people to use the
product... it's very effective"***

Ron Rivet, Network Ops Manager, Amica Insurance

How Does Sound Masking Work?

ADDING SOUND MAKES SPEECH LESS INTELLIGIBLE

Adding sound to a space actually makes the space seem quieter. It sounds counter-intuitive, but it's true. This is because the added sound reduces the intelligibility of speech. When you can't understand what someone is saying, their words are less distracting – in fact, you probably don't even notice them.

Have you ever had a conversation while washing dishes? When the water isn't running, you can hear the other person's words perfectly. When you turn the water on it becomes much harder to hear them and understand what they are saying.

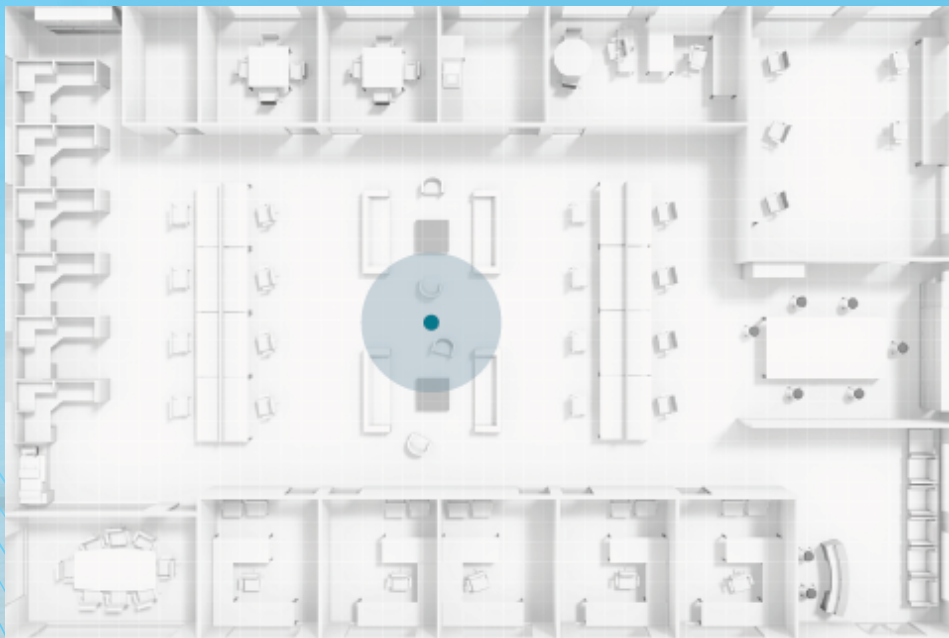
The person isn't speaking more softly, but they sound as if they are. This is because the noise of the running water is "masking" the sound of the person speaking to you.

Sound masking mimics this phenomenon on a much more sophisticated and effective scale. By adding ambient sound to an environment (such as professionally engineered sounds similar to water flowing or airflow) you help mask the other noises in the environment, making them less distracting. Sound masking doesn't eliminate all noises in an environment; it simply reduces the area where human speech is intelligible and distracting. We call this area the radius of distraction.

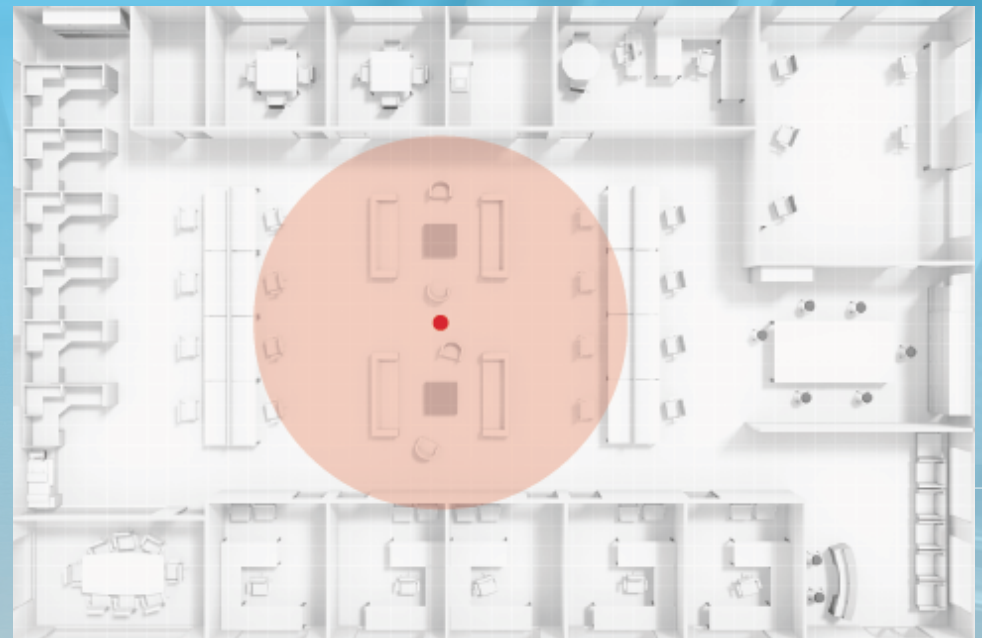
CONFIDENTIAL

How Does Sound Masking Work?

Once masking is added, it becomes more challenging to understand conversations from across the room, and thus makes it less likely that conversations will distract you.



**RADIUS OF DISTRACTION IS REDUCED
WITH SOUND MASKING**



**RADIUS OF DISTRACTION
WITHOUT SOUND MASKING**



***"Overarching responses was
that it helped immensely. People
felt productivity increased"***

**Santo Detorre, Real Estate Manager, Hobbs Brook
Management LLC**

Different Approaches To Sound Masking

DIRECT SOUND MASKING

Direct (commonly called direct-field) sound masking uses small loudspeakers installed throughout the ceiling. The loudspeakers, which are also called emitters, broadcast the sound masking signal directly into the office environment.

The major advantage of direct-field sound masking is that it can be completely confined to the areas where it is required, and independent spaces, or zones, can more precisely receive the desired sound masking level.

INDIRECT SOUND MASKING

Another method of implementing sound masking is through what's called indirect technology.

With indirect sound masking, upward firing loudspeakers are placed below the ceiling deck in what's known as the plenum space.

The sound masking signal is broadcast against the ceiling deck and then reflects downward (often through ceiling tiles) and into the office environment.

The major advantage of indirect sound masking is the ability to individually tune the loudspeakers according to the plenum space's variables, like HVAC ductwork or extensive cabling infrastructure or other acoustics-altering factors.

Our Showroom

Visit our London Showroom to experience the brilliance of sound masking first hand. We'd love to talk you through it, and how we can make the integration process efficient & seamless for your organisation.

It really needs to be experienced to be fully appreciated.



17 Charterhouse Buildings, London, EC1M 7AP



Book your visit

info@tenav.co.uk

020 3397 7360



TenA✓

Expert **Technology** Solutions