INTRODUCTION TO SOUND MASKING

INCREASE **SPEECH PRIVACY**
BOOST **PRODUCTIVITY**
ACHIEVE **COMFORT**

YOU MAY HAVE EXPERIENCED SOMETHING LIKE THE SOUND MASKING EFFECT

When running water at the kitchen sink. Rolling waves at the beach. Conversation at the coffee shop. These are all examples of the essence of sound masking - as the ambient noise is raised in the environment.

Distractions in the workplace can come in a variety of forms. Loud phone conversations, collaborative talk, an impromptu call for a meeting — all of these things can break an employee's focus. However, some environments are so silent, so devoid of distraction that even the smallest disturbance can become a big issue. Loud, noisy environments aren't ideal, but neither are library-quiet workspaces that ironically feel distracting and unproductive. Sound masking allows you to remain focused.

Sound Masking is specifically engineered to use frequencies to cover up human speech and make conversations less distracting, while also introducing lower frequencies that make a space "feel" comfortable.

If implemented properly, sound masking should provide comfort, improve overall concentration and boosting productivity.

WHAT IS SOUND MASKING?

WHY SOUND MASKING

DISTRACTIONS MAKE EMPLOYEES LESS PRODUCTIVE

With many large and small companies re-opening to welcome employees back, while adhering to social distancing guidelines, **offices may be quieter than ever.**

Densely packed offices have been reconfigured to allow for fewer occupants in the same space. With less people in every office, even the smallest noise can become a point of great annoyance and fixation — like the clicking of a neighbor's pen or the tapping of their foot. And if you've ever attended or hosted a virtual meeting, then you know how unsettling it can be for those around you.

| **15–25 Minutes**	**Up to 20% Increase**	**More than 80%**
The amount of time a typical worker needs to recover from a noise distraction on the job.	In employee productivity output when a sound masking solution is implemented.	Of workers say they would be more productive if their workspace provided more acoustic privacy.

Sound masking works to eliminate as many distracting noises as possible by introducing sound into the space to 'feel' busier. It's like taking an employee from the library and putting them at the coffee shop. There is a hustle and a bustle feel, but it isn't distracting and allows the employee to be productive.

By controlling the acoustics of a space, you control both productivity and comfort. With an improved acoustical environment, as we return to the workplace, you can provide a place to speak without having conversations understood by others (speech privacy) and can better concentrate without distraction (greater productivity) therefore improving the overall comfort of the space.
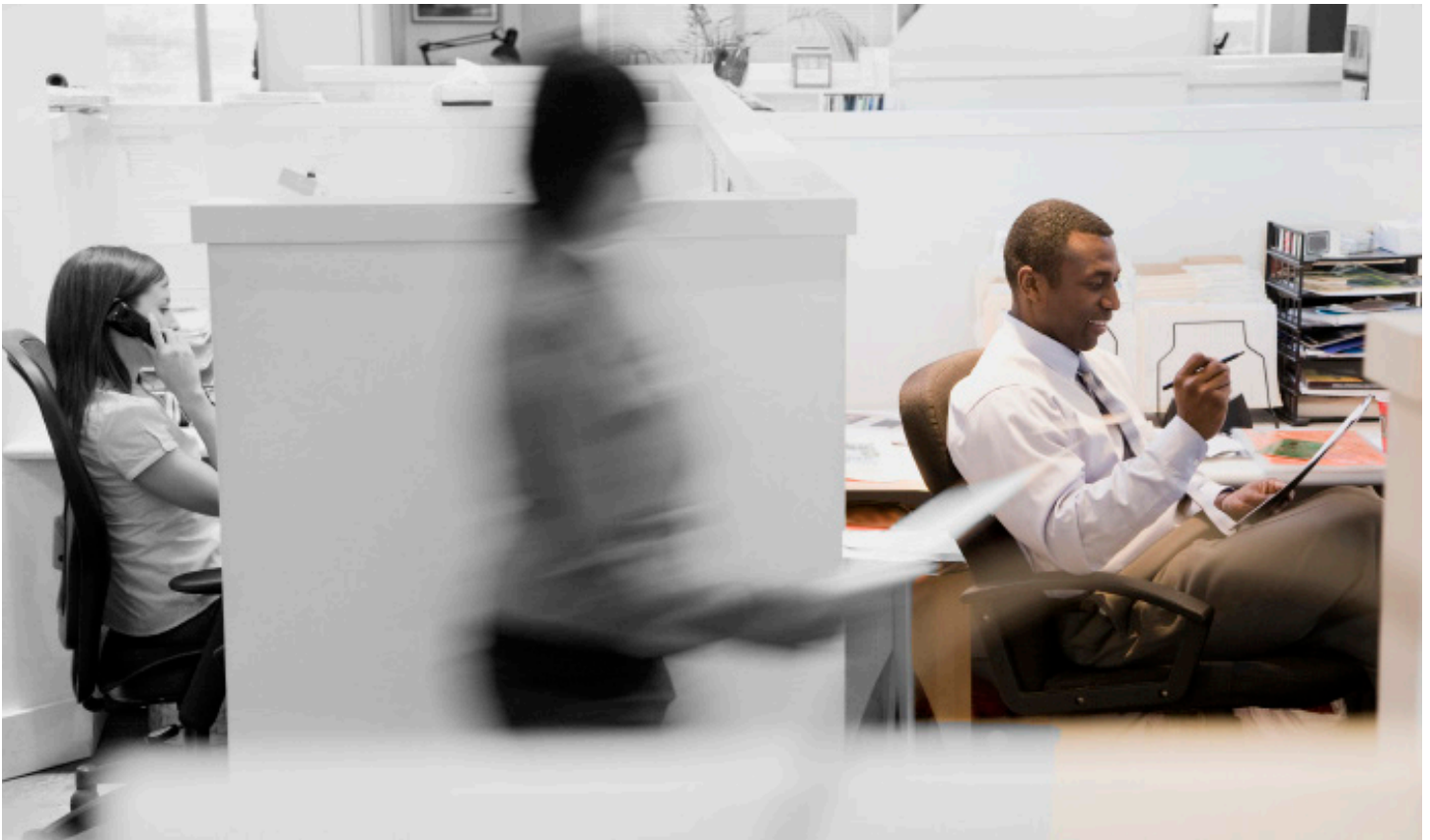
SOUND MASKING DOES NOT CANCEL NOISE

Simply put, sound masking reduces how far away conversations can be understood by others. It helps achieve the right "signal to noise" ratio by raising the ambient background sound to a level that eliminates distractions. Ambient is just a fancy word for immediate surroundings.

Said another way, sound masking is the introduction of noise into a space just above indirect speech volumes in order to minimize the understanding of conversations which allows the employee to continue their work.
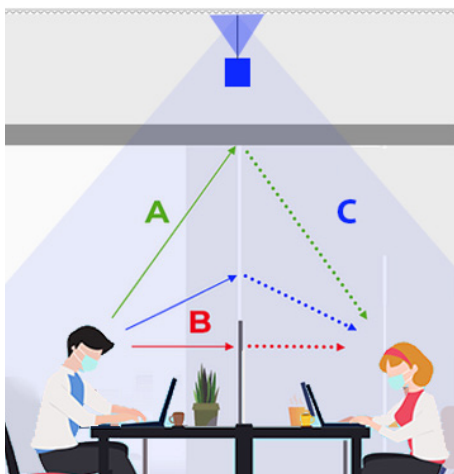
Sound similar to the 'hush' of an air-conditioner, is gently introduced into the space through a series of speakers. Set at a level slightly above indirect speech, this scientifically designed sound fades into the background, making conversations less distracting and improving overall focus.

A,B,C's of Sound Control

A = Absorb
B = Block
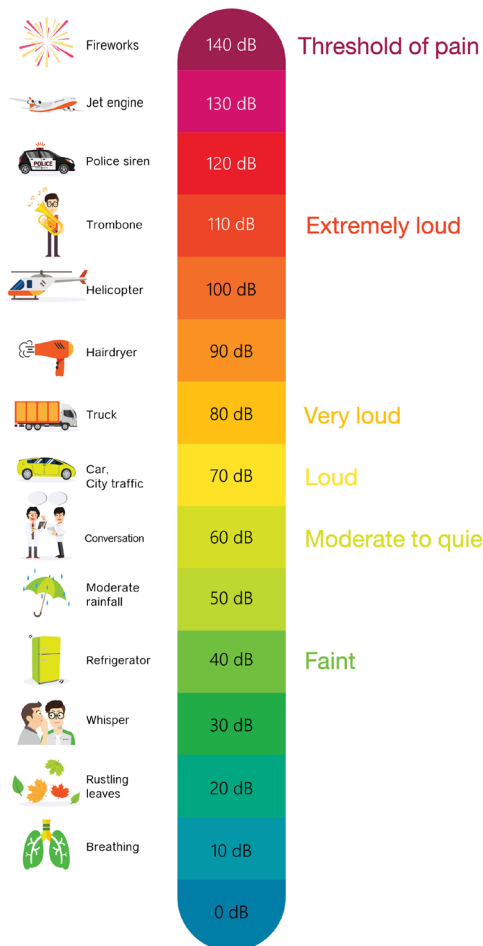C = Cover

HOW SOUND MASKING WORKS

WHAT IS IMPORTANT IN A SOUND MASKING SYSTEM

A QUALITY SOUND MASKING SYSTEM MUST SIMULTANEOUSLY PROVIDE BOTH SPEECH PRIVACY AND COMFORT

The primary consideration for a sound masking system is to provide speech privacy. This is easily achieved with a variety of noise sources. As long as the noise level is above indirect speech levels, you will achieve speech privacy. However, sound masking systems are more scientific and utilize noise sources that are designed around human speech frequencies and a masking curve. These systems allow an unobtrusive noise to be introduced, but still target the frequencies of human voice.

There are testing standards (ASTM E-1130) by which sound masking systems compare and evaluate effective performance in meeting the necessary articulation index (AI). The articulation index essentially measures the percentage of understanding a nearby conversation (see chart below).

CONFIDENTIAL SPEECH PRIVACY	NORMAL SPEECH PRIVACY	NO SPEECH PRIVACY
AI of .05 or less	AI of .2 or less	AI greater than .2

Sound	Level	Description
Fireworks	140 dB	Threshold of pain
Jet engine	130 dB	
Police siren	120 dB	
Trombone	110 dB	Extremely loud
Helicopter	100 dB	
Hairdryer	90 dB	
Truck	80 dB	Very loud
Car, City traffic	70 dB	Loud
Conversation	60 dB	Moderate to quiet
Moderate rainfall	50 dB	
Refrigerator	40 dB	Faint
Whisper	30 dB	
Rustling leaves	20 dB	
Breathing	10 dB	
	0 dB	

COMFORT IS ALSO A KEY CRITERIA IN SELECTING A SOUND MASKING SYSTEM

Without a comfortable sound, sound masking will be turned down or off. When implemented and tuned properly, sound masking should go unnoticed and should fade into the background and barely be perceptible to the human ear.

There are a number of factors which contribute to the comfort of a sound:

- Full broadband spectrum of sound - meeting the high frequencies for human speech, but also lower frequencies for comfort.

- Random Noise Sources - making it feel more natural.

- Uniformity - so the system isn't noticeable.

- Wrap-Around time - so you don't recognize the signal repeating.

RETURN ON INVESTMENT

What's most important to your space? People. In order to get the most out of your employees, you want them to be in an environment that allows them to produce at their highest levels. Sound masking delivers a powerful Return on Investment (ROI) by providing speech privacy and comfort.

The value sound masking provides is greater productivity. Studies show that for every workplace distraction it can take an average of 25 minutes to return to normal production levels. That means one distraction per day consumes 5.2% of an 8-hour work day.

Acoustical condition studies show productivity improvements range anywhere from 3% to 51% with the introduction of sound masking. To be conservative, assuming at least a 3% increase in productivity, the following chart details the dollar return in the form of performance you can expect out of your sound masking investment.

Employee Cost

Average Annual Salary	$50,000
Overhead or additional expenses as a % of salary (20%)	$10,000
Number of employees	10
Total employee cost	$600,000

Facility Cost

|	
Workspace size in square footage	2,500
Average cost of sound masking with installation per square foot	$1.50
Total investment for workspace	$3,750

Return on Investment

Annual productivity return *Employee cost x 3%*	$18,000
Investment	$3,750

RETURN

$18,000/12 months = $1,500/month
= 2.5 months for payback
= $14,250 in year 1
= $18,000 each additional year after year 1

WHERE SHOULD SOUND MASKING BE USED
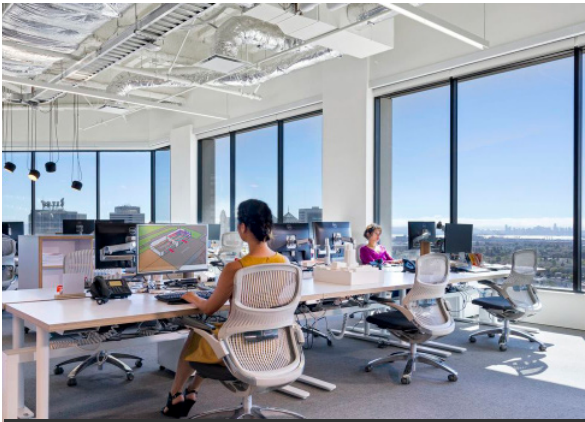
CORPORATE OFFICES

HEALTHCARE

LEGAL

FINANCE

CALL CENTERS

GOVERNMENT

SOUND MASKING GOES WHERE THE EARS GO

WHO BENEFITS FROM SOUND MASKING?

Business Owners
Protect Speech Privacy.
Improve Comfort.
Maximize Productivity.

Healthcare Administrators/ Staff
Increase HCAHPS scores.
Help Achieve HIPAA compliance.

Employees
A more comfortable work environment allows for fewer distractions and increased productivity.

Patients
Protect speech privacy and Improve recovery times with a more comfortable environment.

Facility Managers
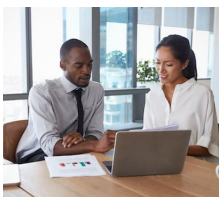Increase employee satisfaction and reduce costs.

Architects / Interior Designers
Create acoustical environments that allow privacy and focus.

Property Managers
Increase the value of your space.
Attract new tenants and improve current tenant satisfaction.

Financial Advisors
Comply with the speech privacy requirements of GLBA regulations.

Consultants
Help achieve a work environment that promotes collaboration without sacrificing acoustics.

Contractors
Improve speech privacy and comfort without adding costly absorptive and blocking materials.
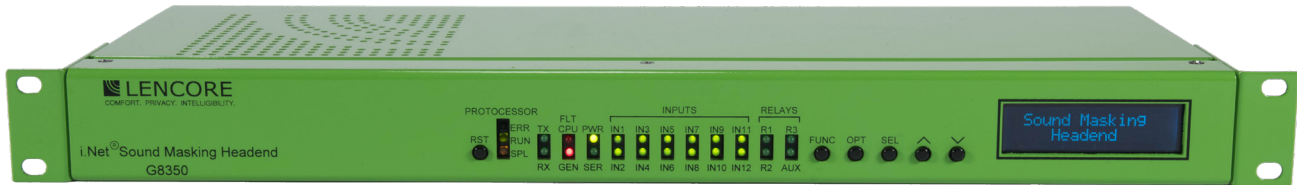
i.NET®

THE STANDARD FOR SOUND MASKING

The i.Net networked solution delivers superior comfort and privacy in sound masking, intelligibility in paging and clarity in audio. Ideal for projects over 15,000 square feet, i.Net offers virtually limitless zoning capabilities, plug and play speaker options, as well as a revolutionary intuitive Graphic User Interface (GUI) for central system controls. Floor-to-floor, building-to-building, across the campus or around the world.

Additional Features:

- Meets the UL 2572 and UL 864 standards to interface with a fire alarm control panel in order to shut down the sound masking in an emergency (required by code).
- Expandable.
- Offers in-plenum and direct fired speakers to suit all ceiling applications and types.
- Requires no proprietary software or cabling.
- Local, global and prioritized paging.
- Single point of control for complete system access, viewing and reporting.
- Offers a variety of speakers to suit all ceiling applications and types.

SOLUTIONS

GOLD™

ALL-IN-ONE SYSTEM

Gold is a Networked, self contained system that delivers incredibly comfortable sound masking for environments up to 12,000 square feet. This out of the box solution can be installed, tuned, and ready for use in just a few simple steps. Background music is easily integrated into the system.

Additional Features:

• Great Sound Masking solution for smaller spaces.

• Easy to install and use.

• Requires no proprietary software or cabling.

• Can also provide background music for an environment.

• 8 independent channels (for a total of 64 speakers).

• Offers a variety of speakers to suit all ceiling applications and types.

SOLUTIONS

CLASSIC™

SET-IT AND FORGET-IT

Classic is a non-networked, stand-alone system that delivers incredibly comfortable sound masking and superior paging.

Additional Features:

- Great Sound Masking solution for non-networked applications.
- Simple design and installation (set-it and forget-it system).
- Requires no proprietary software or cabling.
- Easy to install and use.
- Offers a variety of speakers to suit all ceiling applications and types.
- Can also provide paging and background music for an environment.

SOLUTIONS

LENCORE

Founded in 1990, Lencore has a long history of providing innovative systems for sound masking, paging and background music. Our advancements in sound quality, audio distribution, software and networking solutions have propelled Lencore to industry leadership. We are proud that our products are manufactured in the USA and offer an unparalleled 10-year warranty.

Contact Lencore for more on our System Solutions for speech privacy, comfort and productivity.