# INTRODUCTION TO

# HEARING ENHANCEMENT WORLDWIDE

AMPETRONIC

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LISTEN TECHNOLOGIES

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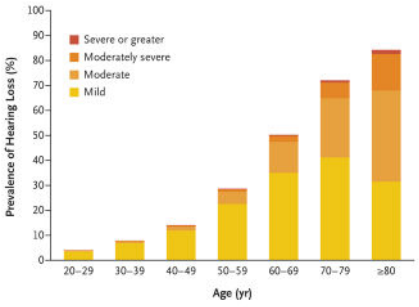
# Worldwide Hearing Loss Stats

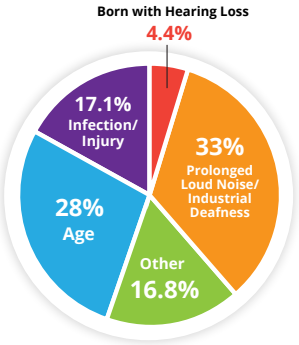
## Type of Hearing Loss




While only about 5% of individuals aged 20–29 experience hearing loss (primarily mild), this figure rises to over 80% among those aged 80 and older, with a substantial portion experiencing moderate to severe or greater hearing loss.[1]

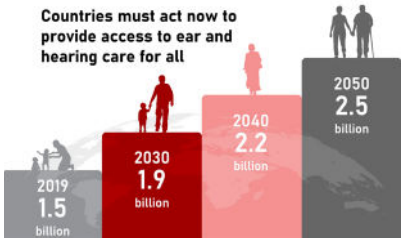
**Over 5% of the world's population** – or 430 million people – require rehabilitation to address their disabling hearing loss (including 34 million children).

## Causing Hearing Loss




By 2025, 2.5 billion individuals will experience hearing loss.[2]

## Hearing Loss is on the Rise



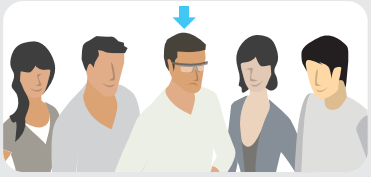

33.7% of causes of hearing loss are due to prolonged loud noise / industrial deafness[3]

1 New England Journal of Medicine 2 League of Hard of Hearing 3 WHO

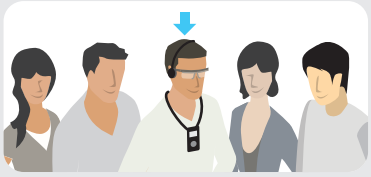
# Hearing Loss and Quality of Life

## What is Assistive Listening?

An assistive listening system (ALS) allows listeners to engage, connect, and feel included by delivering audio directly to their ears without amplifying ambient noise. Assistive listening is the use of technology designed to improve the experience for individuals who are hard of hearing by transmitting audio directly to the listener. This audio, which can originate from a microphone, auxiliary output, computer audio, or another audio source, is sent via a transmitter to a receiver, also known as an assistive listening device (ALD), that then delivers it directly to headphones, hearing aids, or cochlear implants, allowing the listener to hear with clarity.



It can be isolating when you are unable to hear and enjoy the performance.

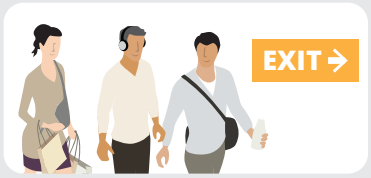


Assistive listening helps ensure everyone can access and enjoy clear, inclusive audio experiences, no matter the environment.


Hearing loss is often called the “invisible disability.” Everyday interactions, whether in public spaces, at work, or in social settings, can quickly become challenging and isolating experiences.


Accessibility standards around the world increasingly require hearing enhancement solutions at key public touchpoints, such as information counters, to ensure equal access for individuals with hearing loss.

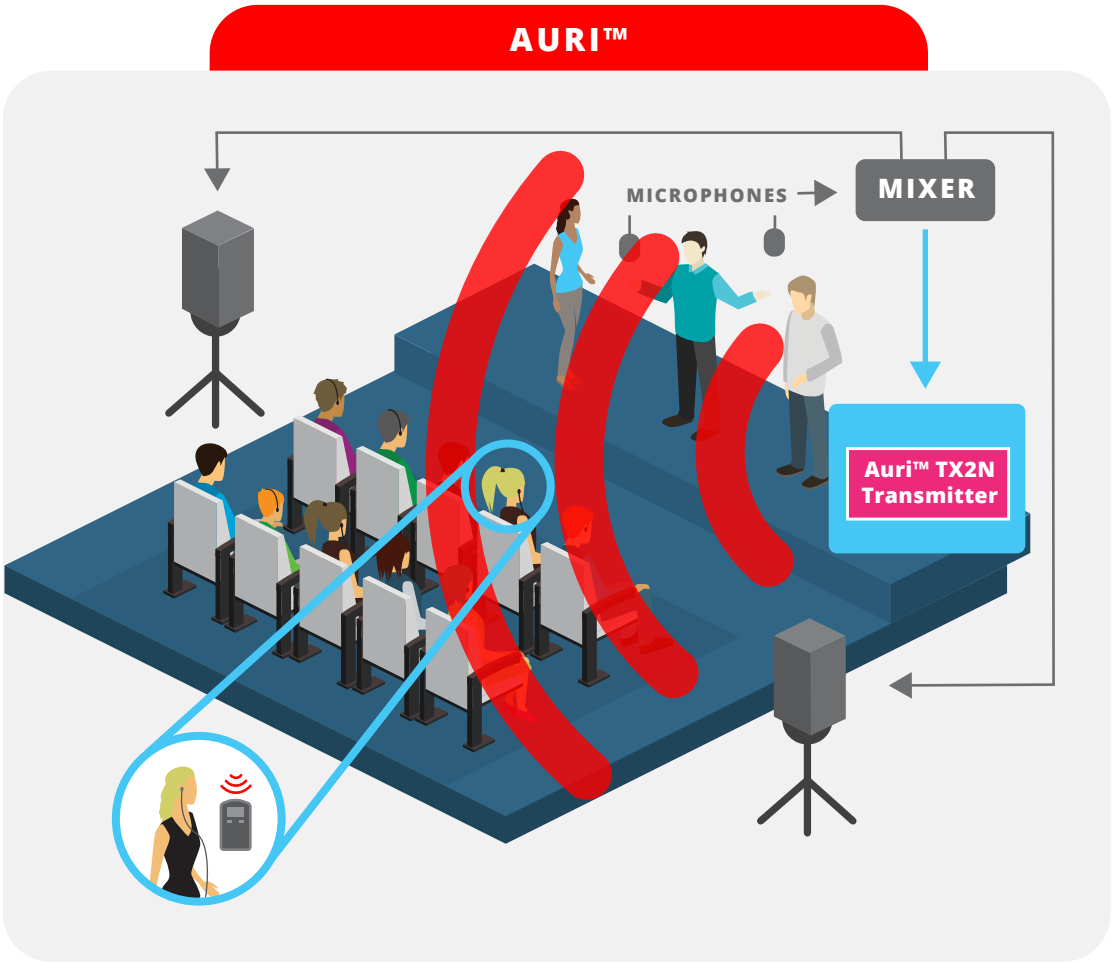

A building evacuation can be a frightening experience if you do not understand what is happening.




When assistive listening is integrated with public address systems, individuals with hearing loss can clearly understand important messages, including safety and evacuation instructions.

# Hearing Enhancement Solutions

**There are five types of Hearing Enhancement technologies:** Auri™, Wi-Fi, Induction Loop, Infrared (IR), and Radio Frequency (RF). Each uses different technology to transmit sound wirelessly to a personal receiver, a personal smart phone or directly to a compatible hearing aid.



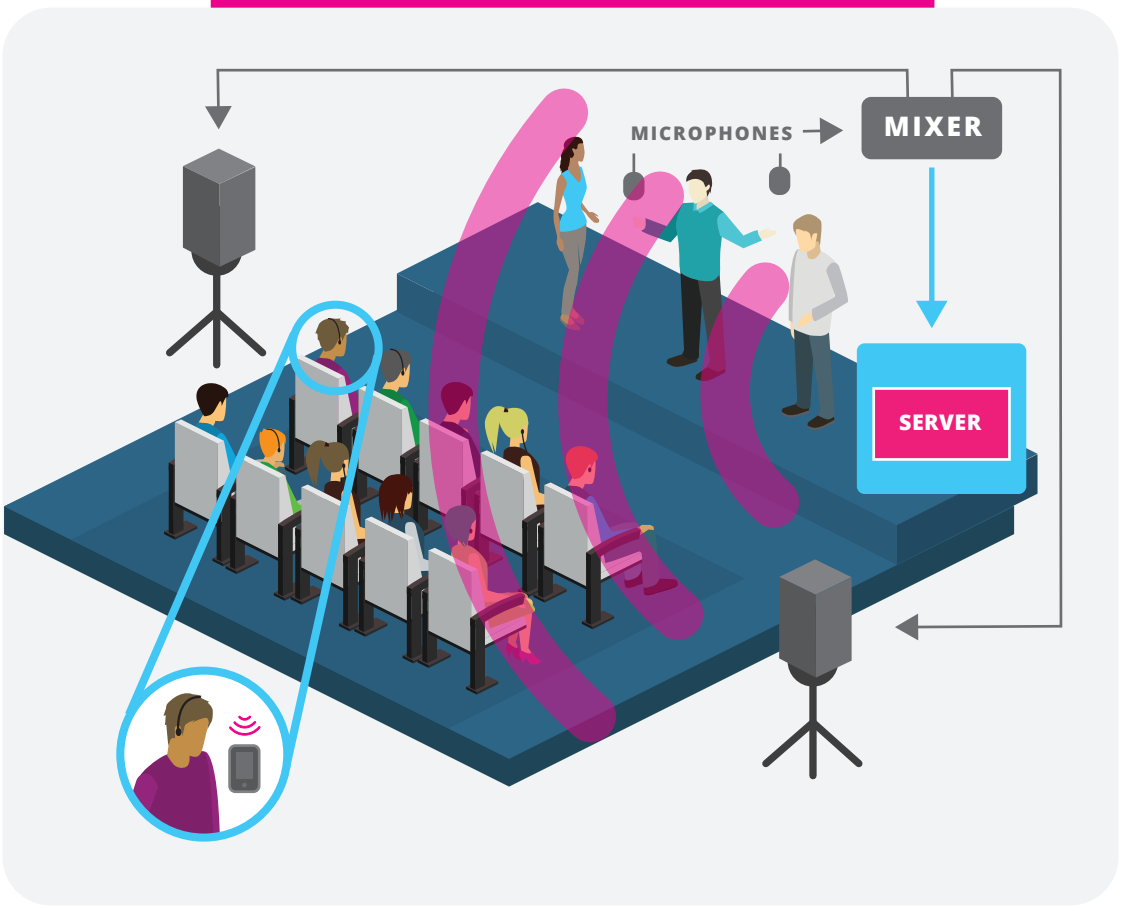

## Pros

- User-Friendly
- Auracast™ Compatibility
- Future-Proof
- Scalable and Flexible
- Effective Coverage

## Cons

- Potential Security Considerations
- Limited Compatibility with Hearing Aids Today

## WI-FI SOLUTION



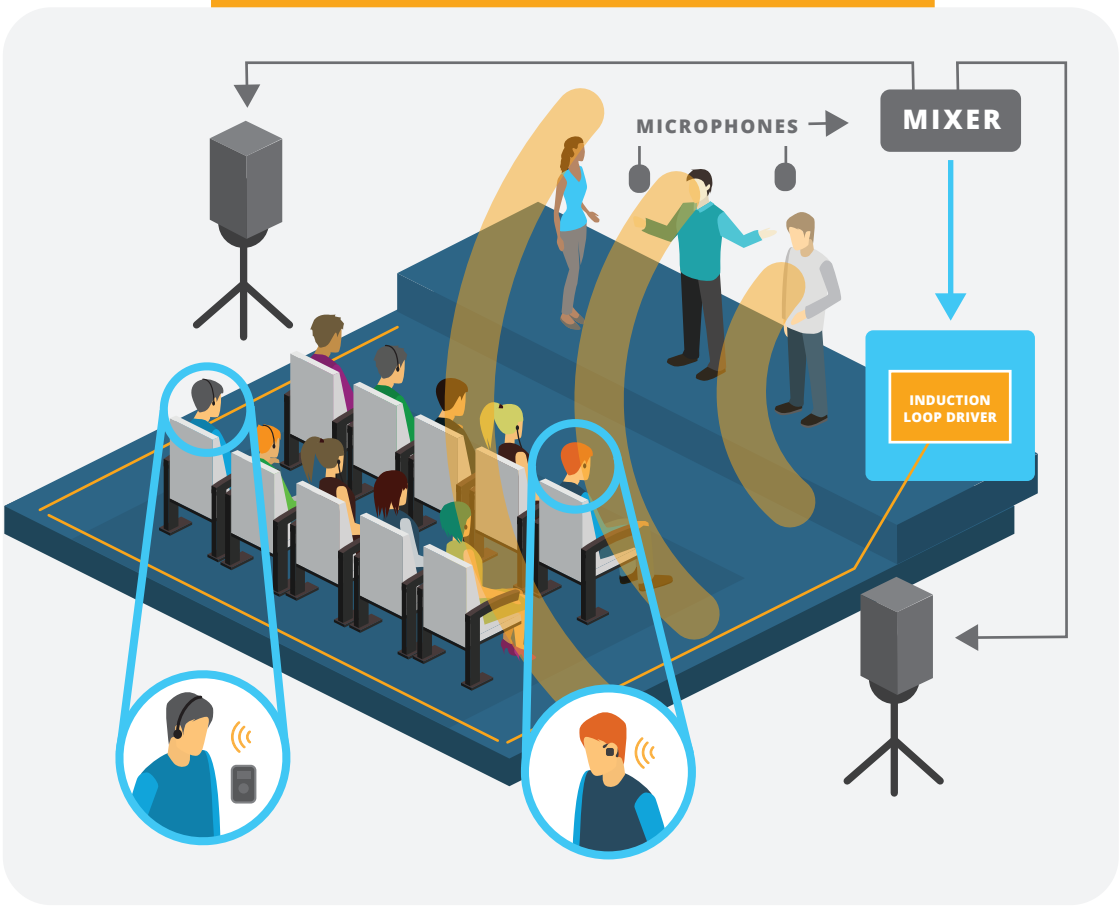

### Pros

- BYOD (Bring Your Own Device) Compatible
- Scalable and Flexible
- Multi-Channel Audio
- Low Latency on Local Networks
- Device Flexibility
- Cost Effective
- *IDA (RF) Compliance

### Cons

- Wi-Fi Network Dependable
- Potential Security Considerations

## INDUCTION LOOP



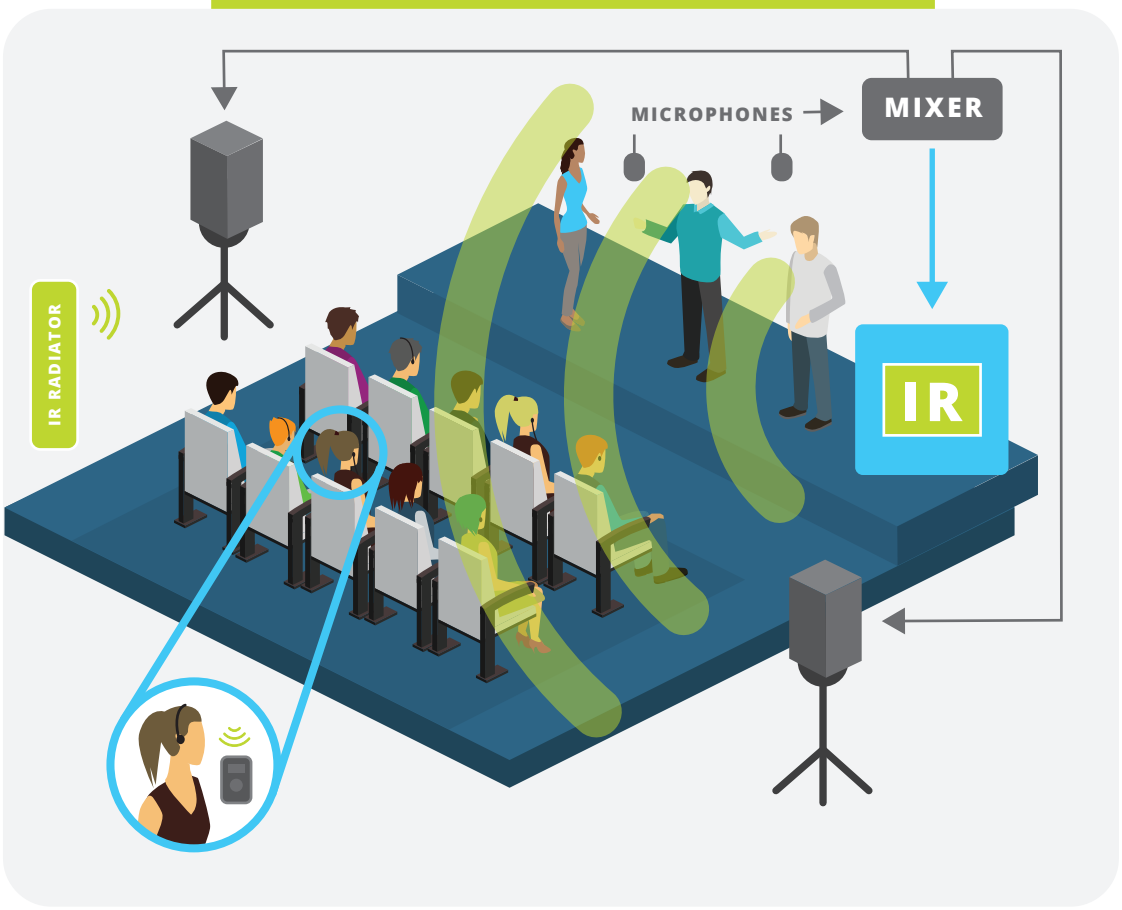

### Pros

- Universal Compatibility
- Effective Coverage
- Room-to-Room Leakage Security
- *IDA (RF) Compliance
- Seamless User Experience

### Cons

- Installation Complexity
- Upfront Cost

## INFRARED (IR)

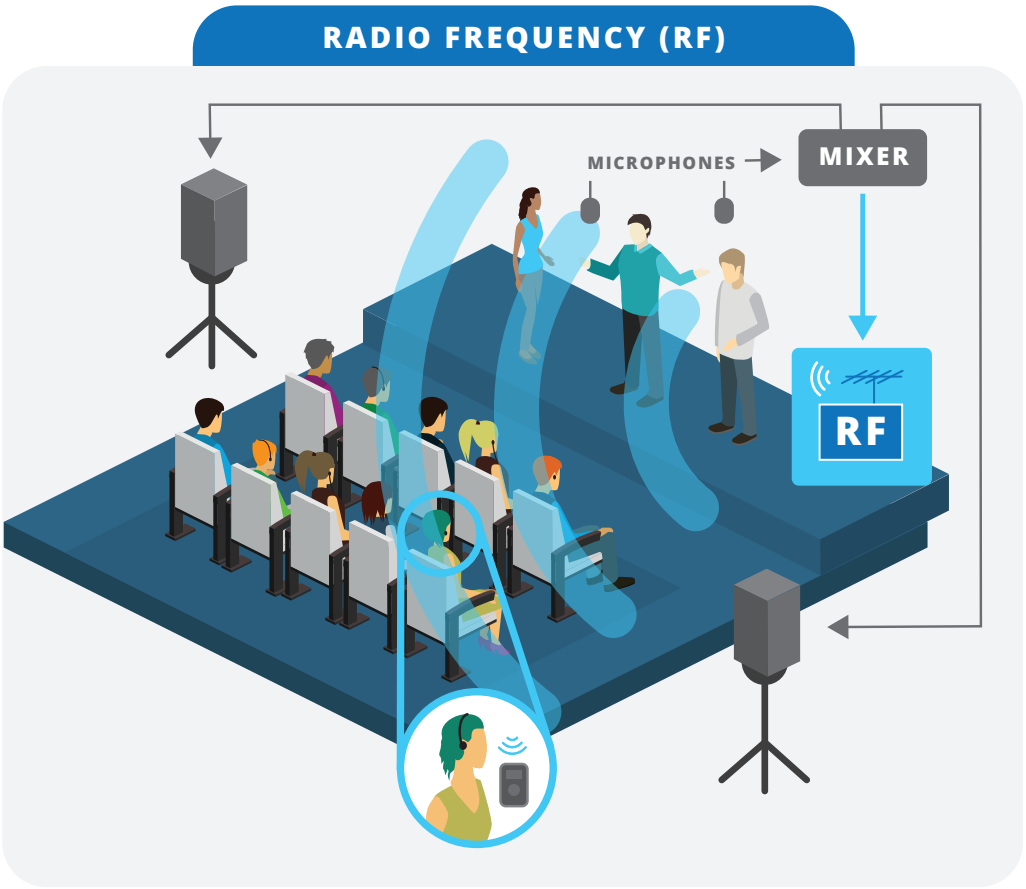



### Pros

- *IDA (RF) Compliance
- Secure Audio Transmission
- Interference-Free System
- Consistent Audio Quality
- Ideal for Confidential Settings

### Cons

- Dedicated Hardware Required
- Installation Complexity
- Not Ideal for Outdoor Use




## Pros

- Flexible Compatibility
- Scalable for Various Needs
- Large-Range Coverage
- Cost Effective
- Indoor and Outdoor Applications

## Cons

- Hardware Dependence
- Not Secure to Room
- Frequency Management Required

# Hearing Enhancement and Accessibility

The Building and Construction Authority (BCA) has stated in section 6.8.1 of the Code on Accessibility in the Built Environment (2013) that Hearing Enhancement systems shall be provided in "The function rooms, halls and auditoriums used for meetings, lectures, performance or films" and "At least one of the public information/service counters for cinemas, theatres, concert halls, stadiums, shopping complexes, museums, theme parks, purpose-built family amusement centres, sport complexes, public swimming pools, hospitals, clinics, transport stations, interchanges and passenger terminals."

## ListenTALK (RF)

ListenTALK uses radio frequency on the DECT platform to broadcast the audio to user-worn receivers.

- Portable and can be used inside and outside
- Minimal Install
- Simple to setup and use

## ListenIR

Infrared systems utilize infrared light to broadcast an audio signal to users with IR receivers. Because IR systems are light-based, audio cannot be broadcast outside the designated space or room.

- Ideal for adjacent classrooms or meeting space
- Great for simultaneous broadcasts (multiple languages/interpretation)
- Secure, audio cannot be intercepted from outside the room

## ListenWIFI

Audio via Wi-Fi technology allows venues to stream multiple audio sources directly to guests' smartphones using the venue's network.

- Scalable to increase streaming channels or # of users
- Audio is received via FREE customizable app
- Guests can stream audio from smartphone directly to Bluetooth equipped hearing aids

## Ampetronic LOOP

Hearing Loop technology, also called induction loop, utilizes an electromagnetic field to broadcast the audio signal to any visitor or participant with a cochlear implant, telecoil (t-coil) equipped hearing aid, or loop receiver.

- The T-coil in equipped hearing aids, cochlear implants, or hearing loop receivers picks up the audio signal and delivers it directly to the user
- Eliminates the need for individuals with hearing loss to carry additional equipment
- Preferred by the hard of hearing community - is the most dignified and convenient solution

## Combo Compliance Systems

Combo Compliance Systems enables you to meet and exceed your audio compliance requirements, expanding coverage to everyone with a Smartphone.

- Pairs a compliant RF, IR, or Induction Loop system with the convenience of ListenWIFI
- Expandable based on compliance requirements
- Encourages inclusion by offering a discreet listening option

| | Range | Secure Signal | Compliant | Portable | Indoor/ Outdoor | # of Channels |
|---|---|---|---|---|---|---|
| **ListenIR** | 3,716 m² | Yes | Yes | No | Indoor | 4 |
| **ListenTALK** | 150m indoor/ 300m outdoor | Yes | Yes | Yes | Indoor/ Outdoor | 10 groups in same space |
| **ListenWIFI** | Within Wi-Fi range | Optional* | Yes, when used in a Combo Compliance System | No | Indoor/ Outdoor | 16+ |
| **Ampetronic LOOP** | Within loop | Yes | Yes | No | Indoor | 1 |

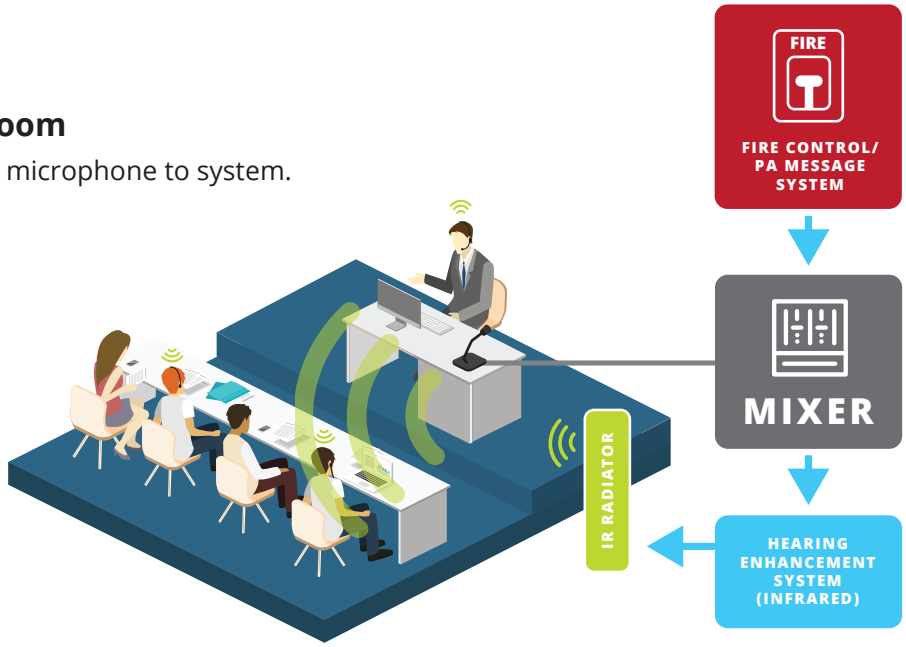
* Secure signal if Wi-Fi is password protected

**ListenTALK and ListenWIFI can also be used as a simultaneous translation solution for Houses of Worship and Auditoria with multiple language needs.**

# Deploying a Hearing Enhancement System

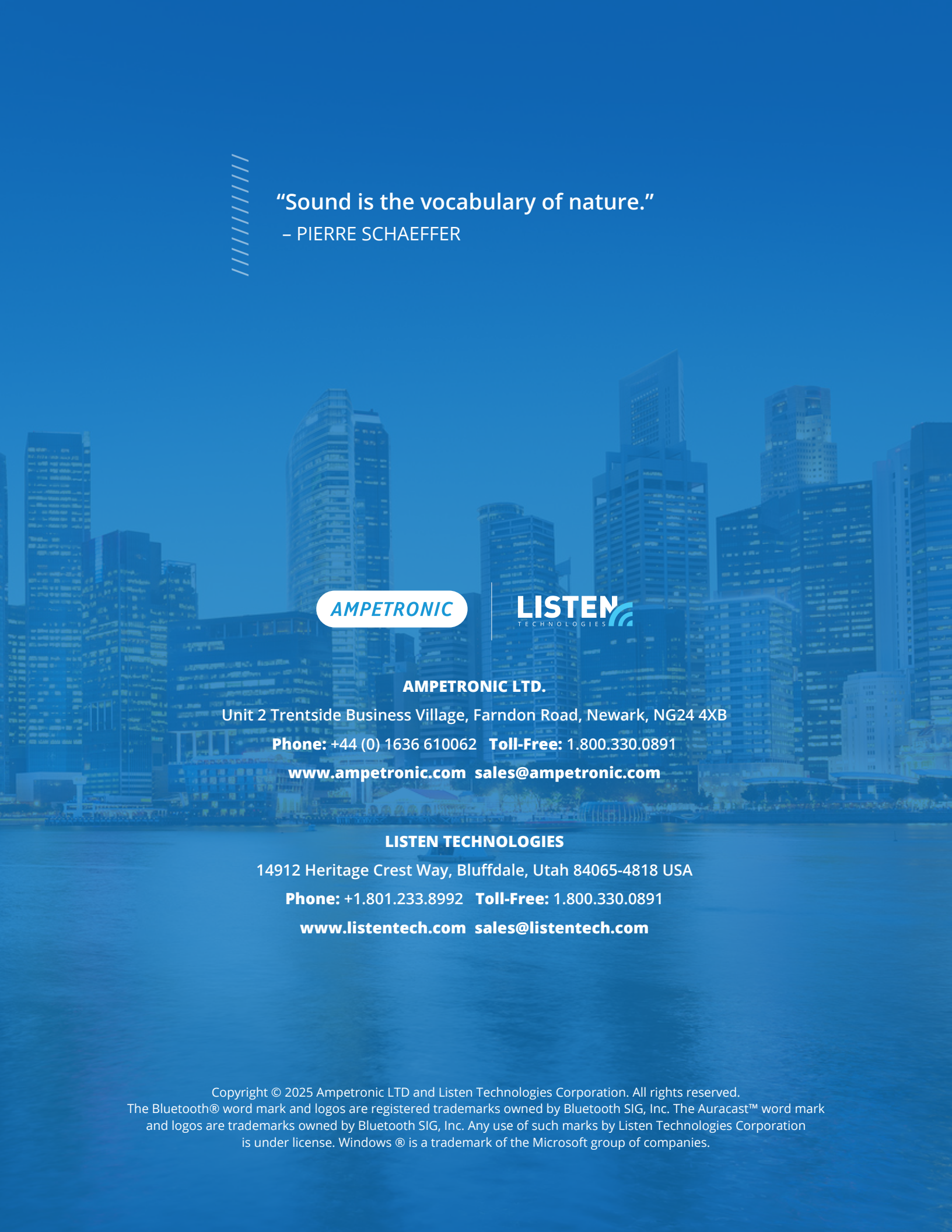
## Classroom

Teacher microphone to system.




## Information Counter

Counter person microphone to system.



"Sound is the vocabulary of nature."
– PIERRE SCHAEFFER

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