

What is a remote microphone system?

- A remote microphone system is a wireless system designed to help a student hear and understand speech in noisy situations and over distances.
- Some remote microphone systems work together with hearing aids, while others are designed for those with some normal hearing.

Why use a remote microphone system?

- Hearing aids alone do not provide a student the ability to hear clearly in all listening situations, especially in noisy environments and when the speaker is at a distance.
- Remote microphone systems help overcome three main obstacles for listening in school: background noise, distance, and reverberation.

Types of remote microphone systems

- **Personal system**
 - Teacher wears a small microphone
 - Child with hearing loss wears a small receiver either attached to the hearing aid or a device worn around the neck
 - Sound is transmitted through a hearing aid, cochlear implant, or other small ear-level device
 - May be used for students with hearing loss as well as normal hearing or an auditory processing disorder
 - Easily transported from classroom to classroom for older students
- **Soundfield system**
 - Teacher wears a small microphone
 - Sound is transmitted through multiple speakers situated around the classroom facing the students
 - Useful if the child is in one classroom for the entire school day
- **Personal soundfield system**
 - Teacher wears a small microphone
 - Sound is transmitted through a single tower speaker situated in front of the student with hearing loss
 - Can be easily transported between classrooms if necessary, but cumbersome

Parts of a remote microphone system

- **Transmitter:** Worn by the teacher and includes the microphone
- **Receiver:** Worn by the child on the ear or around the neck on a loop
 - **Universal receiver**
 - Compatible with essentially all manufacturer's hearing aids and cochlear implants
 - Requires an "adaptor" to connect to different devices
 - Sound is sent through the receiver to the hearing aid or cochlear implant
 - **Integrated receiver**
 - A receiver that is designed for specific hearing aid or cochlear implant models
 - No adaptor required
 - Sound is sent through the receiver to the hearing aid or cochlear implant

- **Stand-alone receiver**
 - An ear-level device that resembles a small Bluetooth headset
 - Designed for people with normal hearing, slight hearing loss, or auditory processing deficits who do not utilize hearing aids or cochlear implants who have some
 - Sound sent directly to the device
- **Adaptor** – Connects the universal receiver to a hearing aid/cochlear implant
 - Designed for specific hearing aid or cochlear implant models

When to use a remote microphone system

- **Soundfield System**
 - During all classroom instruction
- **Personal System**
 - During classroom instruction
 - Important to turn off microphone during group instruction when talking with a different group than the student

Benefits of Personal Systems

- Teacher's voice heard at an appropriate and constant intensity level regardless of the distance between the child and the teacher.
- Teacher's voice heard more prominently than background noise.
- Less teacher repetition required for instructions

Benefits of Soundfield Systems

- Less teacher repetition required for instructions
- Enhanced class instruction and management
- Less vocal strain for teachers
- Benefits all children in the classroom

Additional Resources

- Phonak Soundfield- www.dynamicsoundfield.com
- Phonak Personal- www.FMlibrary.com
- Phonak School Support- www.eSchoolDesk.com
- Oticon- www.oticon.com
- American Academy of Audiology- www.audiology.org
- American Speech-Language and Hearing Association- www.asha.org

Not every remote microphone system is appropriate for all classrooms or students. To choose the correct system, it is necessary to contact an educational audiologist who can assess classroom acoustics and the student's specific needs in the classroom. If your school does not have an educational audiologist, consider contacting **Sound Outreach for Schools.

Sound Outreach for Schools

Contact: Laura Chetwynd or Christine McDonald

Phone: 781-216-2207

Email: soundoutreach@childrens.harvard.edu

Examples of Remote Microphone Systems

Transmitters



Oticon Amigo



Phonak Inspiro



Phonak Dynamic



Roger Pen

Receivers



Soundfield Speakers



Soundfield Tower Speaker



Neckloop for Telecoil Devices



Integrated Receivers



Universal Receiver



Roger Focus
Ear Level
Receiver
(Not a hearing aid)