



## Assistive Listening Devices (ALDs)

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### What is an Assistive Listening Device (ALD)?

Assistive Listening Devices (ALDs) also known as Assistive Listening Systems (ALSs) are equipment designed to improve most listening situations; they can be used with hearing aids or cochlear implants with the use of a neck loop. Some ALDs amplify a sound signal, but the primary purpose of an ALD is to make the targeted sound (e.g., a teacher's voice, a movie, etc.) easier to hear by isolating the sound source from surrounding noise.

### What types of ALDs are there?

#### FM System

One type of ALD is an FM transmitter/receiver combination. In this set-up the speaker may wear an FM transmitter on her clothing, and then the wireless FM signal is sent to anyone in the room wearing an FM receiver. This is also accomplished by placing a microphone attached to an FM transmitter close to the person speaking, and then broadcasting the signal to the room so that anyone with an FM receiver can hear what is going on.

#### Infrared

Infrared technology can also be used in ALDs. The concept is the same as with an FM system. The signal is passed from an infrared transmitter that uses pulses of light to transmit the sound, and it can be received by a person wearing an infrared receiver. The advantage of infrared is that the beam cannot pass through walls, so privacy in a room can be guaranteed. An FM system can be picked up by a receiver anywhere within range of the signal. Because of its ability to protect privacy, an infrared system is preferred in settings such as court proceedings and doctor consultations.

#### Inductive Loop

An inductive loop system is a system that uses an electromagnetic field to amplify the sound of the speaker, and then sends that sound to anyone wearing an inductive loop receiver. The only drawback to the inductive loop system is that if two adjacent rooms are using an inductive loop system, it is possible for the electromagnetic fields to cross, causing interference in both systems.

### What are the benefits of using Assistive Listening Devices?

A distinct acoustic advantage of ALDs compared to personal hearing aids is the position of the input microphone at a location close to the speaker's mouth. The microphone location allows the level of the speaker's voice to stay constant to the listener regardless of the distance between the speaker and the listener. The speaker's voice is also heard clearly over room noises such as chairs moving, fan motors running, and people talking.

ALDs can be moved from room to room or permanently installed.

ALDs are helpful when listening in a one on one situation or in small groups.

ALDs can be used alone or in conjunction with personal hearing aids and cochlear implants.

ALDs are used with persons who have varying degrees of hearing levels ranging from normal hearing acuity (e.g., persons with learning disabilities, attention deficit disorders, central auditory process disorders) to persons who have a profound hearing loss.

ALDs can be beneficial when listening to audio and audiovisual equipment, e.g., DVDs, televisions, MP3 players and stereos.

You may wish to click on the following links for more information:

[www.hearingloss.org/hearing-help/technology/hat/alds/](http://www.hearingloss.org/hearing-help/technology/hat/alds/)

[www.nad.org/issues/technology/assistive-listening/systems-and-devices](http://www.nad.org/issues/technology/assistive-listening/systems-and-devices)