

## ASSISTIVE TECHNOLOGY AND ASSISTIVE LISTENING DEVICES FOR HEARING LOSS

### What Is An Assistive Listening Device (ALD)?



An ALD helps amplify the sounds you want to hear,

especially where there's a lot of background noise. ALDs can be used with a hearing aid or cochlear implant to help a wearer hear certain sounds better. The user is able to adjust the intensity of the transmitted sound through a volume control device either on the ALD receiver or on the hearing aid or cochlear implant.

### What different kinds of ALDs are available?

Personal Listening Systems; Telephone Amplifying Device; TV Listening Systems, Direct Audio Input Hearing Aids;

### Types of Assistive Listening Device Systems:

#### **FM Systems**

FM System stands for Frequency Modulation. It's a wireless devices that operates on special frequencies assigned by the Federal Communications Commission. They usually consist of a transmitter

microphone used by the person speaking and a receiver and headset used by the listener. The FM receiver has volume control and the sound is carried to the user by headphones, a hearing aid or cochlear implant with a telecoil, (T-Coil) or through other induction loop devices such as a neck loop or a hearing aid silhouette. More than one system can be used in a small area without fear of crossover sound from one system to another. FM systems are often used in theaters, places of worship, museums, public meeting places, corporate conference rooms and convention centers.

#### **Pocket Talker**

The Pocket talker is a device wired with an attached microphone that transmits sound signals to someone wearing earphones or earbuds. This system is often used in medical settings, interviews and vehicles when a person is having a one-on-one conversation and does not wear hearing aids.

#### **Infrared Systems**

Infrared systems transmit sound using infrared light waves. Sound is carried on an infrared beam of light between a transmitter and receiver that closely resembles the FM system in size and appearance. Infrared is especially preferred where confidentiality is a concern as all receivers must be in the same room as the

transmitter. There must be an unobstructed line of sight for the light beam to travel between transmitter and receiver. Infrared does not perform well in bright sunlight and thus makes it a poor choice as an outdoor system. Although they are often used in the home with TV sets, they can also be used in large settings such as theaters.

#### **Audio Loop Systems**

The Audio Loop System uses an electromagnetic energy to transmit sound. An audio loop system involves four parts:

1. The sound source; public address system, microphone or a home TV or telephone.
2. An amplifier
3. Thin loop of wire
4. Receiver

Sound is transmitted from microphones or other signal source through an induction cable that is often placed on the floor, under the room's carpet or above in the ceiling tile. The loop can be as small as a personal neckloop worn by an individual, or can be as large as a wire which encompasses a room, auditorium or other listening area. People who are seated inside the wire loop and wearing hearing aids with T-coils, hear the sounds spoken into the microphones connected to the receiver. The receiver is most often a hearing aid with a built in telephone coil. Most, but not all hearing aids have a T-

