

Assistive Listening Devices to the Rescue!

A Primer to Help You Get Started

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Hard of hearing people often lament, "Hearing aids don't work well for me, particularly in noisy places such as while driving in the car or talking in noisy restaurants." They then ask, "What can I do in order to better hear my spouse and friends under such conditions? Being unable to communicate freely is putting a strain on my marriage and my friendships."

Unfortunately, when most people lose some of their hearing, they are told to get hearing aids, as though hearing aids were the whole answer to hearing loss. The result is they become disillusioned with their hearing aids.

You see, hearing aids are not perfect, and in some listening situations such as in noisy places, or when you are at some distance from the speaker, they can be almost useless!

That's where Assistive Listening Devices come in. They can largely overcome these two main limitations of hearing aids (noise and distance), and thus help you hear awesomely better.

Picture this. You have your hearing aids on and are sitting in your living room trying to listen to your favorite TV show. Only one problem. Your young grandkids are playing and shrieking right at your feet. Your hearing aids are picking up and amplifying all their racket. Your frustration mounts as you miss most of your program. Your hearing aids are just not helping you in this situation.

Now picture this same scenario. The grandkids are making just as much noise by your feet as before—but you sit there oblivious to their shrieks as you enjoy your favorite TV program—hearing it clearly without any interference. The difference is like night and day. **That** is what Assistive Listening Devices coupled with your hearing aids can do for you. Sounds incredible, doesn't it?—but once you've tried it, you'll know it's true!

Generally you can use assistive devices with, or without, your hearing aids—but teamed up with your hearing aids, they can make an awesome combination.

Benefits of ALDs

There are two major benefits of Assistive Listening Devices (ALDs).

First, ALDs can bring distant sounds close to your ears. When you use ALDs properly, it sounds as if a person is talking directly into both of your ears at the

same time, and not from a distance. As a result, their speech sounds much clearer—you understand more than you would with hearing aids alone. This is because with ALDs you now hear more of the high-frequency sounds that give speech much of its intelligence. Since these sounds are lost in the air with increasing distance, your hearing aids don't pick them up as the distance increases. However, properly-used assistive devices do. This makes an enormous difference to your understanding people talking.

Second, ALDs, when properly used, cut out most background noise since the microphone is much closer to the speaker's mouth than it is to the surrounding background noise. For example, if you are in a meeting and the people around you are coughing, talking, clinking dishes or rustling papers, your hearing aids will pick this up, and you will have trouble understanding the speaker though all this extraneous noise. With ALDs, you will **only** hear the sounds going into the speaker's microphone, not the disturbing noise around you.

Basic Kinds of Assistive Listening Devices

Assistive Listening Devices use various technologies to get the sound from the speaker's mouth to your ears. However, no technology gives significantly better sound than the other—they all do the same thing—deliver beautiful, clear sound directly to your ears.

Therefore, choose a technology based on your needs, what you can afford, what is available to you, and what works best in the particular listening situation you are in, and not on the quality of the sound since it is pretty much the same.

Here are the five technologies in current use today.

- Personal amplifiers
- FM systems
- Infra-red systems
- Induction Loop systems
- Bluetooth systems

Here's a brief look at each of these in turn so you can see why you might choose one over the other in any given situation.

1. Personal Amplifiers

Typically you would use a Personal Amplifier such as the [PockeTalker](#) when you are close to the speaker and are not moving around. For example, listening to your spouse or friend when riding in a car, or conversing in a noisy restaurant. You clip a lapel microphone to the person to whom you are conversing, plug it into your personal amplifier, plug in a [neckloop](#) (or [Music Links](#)) and listen to

your partner via the t-coils in your hearing aids. This cuts out most of the background noise.

The downside of such an arrangement is that you are wired together and thus are not free to move around. However, in situations where you are both sitting down that is not a problem. You can also use these devices to listen to your TV by attaching the microphone of the device near the TV's speaker and running the microphone cord across the room to your PockeTalker. You can do the same if the person you are talking to is sitting on the other side of the room. This is typically the cheapest way to go. Cost is around \$200.00 with the [lapel microphone](#).

Read our article "[Hear In Noise? You Bet You Can! Here's How](#)" to learn more of the benefits of using a personal amplifier such as the PockeTalker.

2. FM Systems

FM systems use **radio waves** to transmit the sound from the speaker's mouth to your ears. Because there are no wires connecting you to the speaker, you are free to move around, or sit at some distance from the speaker. For example, you can typically be up to 150 feet away from the speaker and still hear just as well as if the person was talking directly into your ears. Of course, this requires the person speaking to cooperate and wear your FM microphone/transmitter.

You can use FM systems even if you have to go into an adjacent room, or if you are outside walking, or riding your bicycle with a friend. You will hear your friend's voice beautifully clear in your ears. One drawback of FM systems is that they tend to be quite expensive—in the neighborhood of [\\$600.00](#) and up, although some are much cheaper and come in around [\\$200.00](#).

3. Infrared Systems

Infrared systems are similar to FM systems, except they use **light waves** instead of radio waves to transmit the sound. Typically, infrared receivers are used in meeting halls/theaters and for watching TV.

However, infrared systems are not as versatile as FM systems because of two things. First, you cannot use them outside, or in a room with a lot of sunlight streaming in—as the infrared component of the sun's rays causes horrible interference. So do many flat-screen TVs. Second, light waves travel in straight lines. Thus your infrared receiver always has to be line-of-sight to the speaker's infrared transmitter (called an emitter). Therefore, if you turn away from the TV, or go to the kitchen, you won't hear anything until you return and face the TV again (line of sight remember). Anything or anybody coming between you and the emitter blocks the signal. I find these problems severely limit their usefulness.

4. Induction Loop Systems

Induction loops are the most mysterious of the ALDs because they use a varying **magnetic field** to transmit the sound from the speaker to your ears. Yet these are often the cheapest and most versatile systems available. To use induction loops, you first need to have t-coils in your hearing aids. Induction loops “connect” to your hearing aids via the t-coils. There is no physical connection.

There are two “kinds” of induction loops. One is a [neckloop](#) (which you wear around your neck as the name implies) and plug it into whatever device you are listening to—whether a personal amplifier such as a [PockeTalker](#), or an [FM](#) or infrared receiver, or directly into a radio or MP3 player or iPod. (A variation of the neckloop are tiny devices that sit on your ears such as [Music Links](#) and silhouettes rather than hang around your neck.)

The other “kind” of induction loop is a room loop. The typical application for room loops is for meetings, and for listening to the TV. If you install a room loop in your house, you can freely move around anywhere inside the loop and still hear the TV as well as you can sitting right in front of it. I have wired half my house so I can move around anywhere in the living room, dining area and kitchen, or go downstairs, and still hear my TV as clearly as if I were right in front of it. Room loops are relatively inexpensive—under [\\$200.00](#).

To learn more about loop systems and how they can help you, read our article, "[Loop Systems—The Best-Kept Secret in Town!](#)"

5. Bluetooth Systems

The new kid on the block are systems that use Bluetooth technology. Think of Bluetooth as tiny walkie-talkies that allow two devices to automatically “talk” to each other. The range of Bluetooth is quite limited (a maximum of 30 feet, but 20 feet is a more reliable figure). With a Bluetooth cell phone and a Bluetooth device connected to your hearing aids (either directly attached, or via a [Bluetooth neckloop](#)) you can hear and talk on your cell phone even while it is in your purse or pocket. You can use Bluetooth technology to listen to any device that has Bluetooth such as some computers, MP3 players, iPods, cell phones, PDAs (personal digital assistants, etc.)

Phone Systems

While not a separate technology, I’ve made a separate class for telephones because so many people have problems hearing on them. With phones, you can use several of the above technologies to help you hear better. For example, you can use your t-coils to “couple” with your phone’s receiver. You can get [special amplified phones](#) that give you much more volume if that is your problem, or

you can use a personal amplifier to boost your phone's volume. Some special phones have jacks in them so you can plug in a [neckloop](#) or direct audio input (DAI) patch cord. As well, many cell phones have Bluetooth built in.

Connecting Your Hearing Aids to Assistive Listening Devices

ALDs can work with, or without, hearing aids. For most people the question is, "How do I make these wonderful Assistive Listening Devices work with my hearing aids?" Good question. There are four basic methods.

1. T-coils: (Sometimes called telecoils or audiocoils) The most common method of "connecting" ALDs to your hearing aids is via the t-coils built into your hearing aids. Then you plug a personal loop such as a neckloop, Music Link or silhouette into the device you want to listen to. (Note: if you don't already have t-coils in your hearing aids, ask your audiologist if they can be retrofitted. They are that useful!) To learn more about t-coils and how useful they are, read our article called "[Using T-Coils to Couple Your Hearing Aids to Various Audio Devices](#)".

2. Direct Audio Input (DAI): Some hearing aids and cochlear implants have a tiny jack on the hearing aid itself so you can plug in a "patch cord" and plug the other end directly into the device to which you want to listen—e. g. a radio, iPod, MP3 player, computer or various FM receivers and personal amplifiers. Unfortunately, few hearing aids have DAI jacks.

3. FM receivers: A few hearing aids have special "boots" so you can attach a tiny FM receiver to them and listen to a person via the corresponding FM microphone they wear, but these are expensive and limit you to certain brands of hearing aids.

4. Bluetooth: Similar to the tiny FM receivers (above), but using Bluetooth. Allows you to listen to Bluetooth enabled devices as mentioned previously.

The latest in hearing aid technology is using a remote control (sometimes called a "streamer") that allows the above technologies to easily connect to your hearing aids. The remote control contains a DAI jack to directly connect to audio devices and a Bluetooth receiver to connect with any Bluetooth devices you may want to listen to. You simply wear the "streamer" around your neck and it wirelessly "talks" to your hearing aids via its own proprietary technology.

Assistive Listening Devices have been one of the best kept secrets in town—but no longer. Now that you know how useful they can be, avail yourself of their benefits. When used with your hearing aids in difficult listening situations, the two make an awesome combination!

