

Assistive Listening Technology and the Captioned Media Program

By Dana Mulvany, MSW

Captioning is a vitally important way of making information available to people with a hearing loss. Another method of providing access that can also be used with captioning is assistive listening technology.

The term “assistive listening technology” usually refers to assistive listening devices, including assistive listening systems. It’s possible that assistive listening devices could help you enjoy what you hear far more than you realize. Assistive listening devices help dissipate reverberation, background noise, and problems associated with distance, which negatively affect the majority of people with partial hearing much more than they do people with normal hearing. In one research study, the hard of hearing participants were capable of achieving a 90% speech discrimination score when the speech was much louder than the noise (at a 24 decibel signal-to-noise ratio), but when distance from the speech was increased (decreasing the signal-to-noise [S/N] ratio), the hard of hearing participants understood much, much less. In contrast, people with normal hearing needed only a modest S/N ratio (6 decibels) to achieve a speech discrimination score of 90%. At the same S/N ratio, the hard of hearing participants could understand only 30% of speech. Without assistive listening devices, many people with hearing loss, who are capable of understanding speech and other sounds quite well with the aides, could be spending much of their lives understanding 30% (or even less) of the spoken word. Even if an individual has poor speech discrimination, assistive listening devices may greatly enhance the person’s enjoyment of music and provide much better access to the nonverbal aspects of speech.

Assistive listening devices include wide-area assistive listening systems and personal assistive listening devices. They compensate for challenging listening conditions by capturing and delivering intact the full desired sound, without noise, to help people with partial hearing have a much richer auditory experience. Microphones or direct connections are used to capture sound from the source as cleanly as possible. The sound is converted into another form of energy and transmitted intact via radio frequency waves, infrared light, an induction field, or wire to a compatible receiver. The sound is then delivered to the listener’s ears with as little distortion and noise as possible.

One way of trying an assistive listening device is to request the use of one when you attend a public event, even if an interpreter or captioning is provided. Another way is to attend a meeting of a local Self Help for Hard of Hearing People chapter since most chapters use an assistive listening system. (To find a local chapter, as well as to find more information about assistive technology for people with hearing loss, please visit the SHHH Web site at <http://www.hearingloss.org/>.)

Beyond improving the signal-to-noise ratio, there are many other ways that technology can help listeners with partial hearing maximize residual hearing—so there are actually other kinds of assistive listening technology. One example is through speech reading. Speech reading allows the listener to process unclear sounds much more efficiently; therefore, technology that enables this feature also assists with listening. Devices that deliver customized sound for the listener, such as amplified phones with tone controls, could also be considered assistive listening technology. Technology that provides the

text of speech along with the sound, such as prerecorded captioning, can help listeners concentrate on the nonverbal aspects of speech like emotion, inflection, accents, etc., instead of struggling just to make out the words. Thus, although many people may not realize this, captioning can serve as another kind of assistive listening technology.

Captioning is, of course, tremendously important in order for deaf and hard of hearing people to understand all the dialogue in movies and other media. Even for hard of hearing people, who try to use their residual hearing as much as possible, captioning is still invaluable for providing access to media as there are many times that they cannot make out certain words or phrases .

The Described and Captioned Media Program fortunately helps media providers better understand how to present captioning in a way that is functional for people with various degrees of hearing loss. Included in the free media that DCMP offers to deaf and hard of hearing people are videos that provide information about hearing loss and assistive technology; see [Hearing Loss: You Can Live with It](#).

If you are showing captioned media with sound to an audience of people with hearing loss, consider providing assistive listening systems for a fully accessible and enjoyable experience for all!

Helpful Hints

Many people mistakenly think assistive listening devices work primarily by amplifying sound. Actually, any additional amplification that is needed is often better provided by the listener's hearing aid or cochlear implant than by cranking up the volume on the assistive listening system, which may increase the input of noise.

If you have a hearing aid with a telecoil (a.k.a. t-switch), try using a neck loop or silhouette with an assistive listening device. You may need to automatically turn up the volume on your hearing aid whenever you use your telecoil.

Many headsets, such as those with portable music players, are compatible with telecoils. Try the headset over your hearing aids rather than your ears to experience the sound as loudly as possible.

Do not put neck loops or silhouettes with two-conductor plugs (one colored plastic band) into the headphone jacks of stereo equipment like portable music players, which are usually designed for three-conductor plugs. An inexpensive adapter can be purchased from an electronics store to safely insert a two-conductor plug in a stereo device. Consider doing this instead of using a neck loop or silhouette with your computer if you are viewing captioned streaming video from the DCMP.

About the Author

Dana Mulvany, MSW, is the Hearing Assistive Technology Coordinator at Self Help for Hard of Hearing People (SHHH) and can be contacted at dmulvany@shhh.org. She enjoys using both captioning and assistive listening systems when she watches movies and television programs. Please visit the SHHH Web site at <http://www.hearingloss.org> for more detailed information about assistive technology for people with hearing loss.