

Assistive Listening Technology Resource Sheet

A comparison of potential technology options

| | T-Coil Assistive Technology | FM Transmission Technology | Personal Sound Amplifiers | Speakers & Sound Systems | Captioning Services | Smartphone Applications |
|--------------------|--|---|---|--|--|---|
| Description | A telecoil or T-coil uses magnetic signals (as opposed to acoustical) directly in a telecoil equipped hearing aid. Utilizing specialized microphones and transmitters (such as a hearing loop), the signals are picked up directly by the hearing aid. | A receiving device picks up radio signals transmitted by a microphone and accompanying equipment. The receiver is typically a form of hearing device that can be integrated into the wearer's hearing aids. | A personal sound amplifier is a device that amplifies local sound. A personal sound amplifier utilizes a microphone built into the device which amplifies the sound into a person's ears. | The use of microphones and speaker systems to amplify the speaker(s) in the classroom. Speakers/ sound systems allow for a general amplified sound level in the classroom. | Includes captioning (such as television or film captioning) but also includes the transcription of real time spoken presentations and sounds. The text appears on a device (such as a big screen, a laptop, or mobile device) as transcribed via an internet connection. | The use of smartphone and tablet applications and services to assist in the management of hearing loss. |
| Example Technology | Hearing Loop, Neck Loop, Telecoil Transmitter | Inductive Ear Hook, Neck Loop, Direct Audio Input Adapter | In-Ear Amplifier, Earphone Amplifier, Headphone Amplifier | Wireless Speaker/ Mic, Portable Speaker/ Mic, Built-in classroom Sound System | CART Services, Closed Captioning, Computer Captioning Applications/Programs | Sound Amplification Apps, Hearing Aid Control Apps, Captioning Apps |
| Components | Loop (looped room or personal loop), Transmitter, Telecoil Equipped Hearing aid, Microphone/ Sound System | Transmitter, FM Receiver, Microphone/Sound System | Amplification Device | Microphone, Speaker(s), Receiver Component | Internet Connection, Microphone Equipped Device (Laptop, Smartphone, Tablet) | Smartphone, Tablet, Smart Device |

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| <p>Pros</p> | <p>Loop systems improve the sound signal within the hearing aid, without acoustic feedback. They are useful in large classrooms. They are easy to use; no additional devices (beyond a telecoil hearing aid) required for the user.</p> | <p>FM transmission systems improve the sound, sending the transmission directly into the device. They do not require room installation. They can be used in conjunction with hearing aids.</p> | <p>Personal sound amplifiers can be inexpensive. They require no additional devices (transmitters) besides the unit themselves. Many units have settings to minimize acoustic feedback or background noise allowing for clearer sound.</p> | <p>Speaker/sound systems are typically needed in addition to other assistive listening technology. They project sound for the whole room, improving the sound quality for everyone.</p> | <p>Captioning services provide transcription for those with more severe hearing loss. The words can easily be read, they can capture the nuances of the speaker's delivery. They allow severe hearing loss members to continue participation. They can be easy to use with an internet connection and laptop or device.</p> | <p>Smartphone apps are inexpensive, they are typically available for the same cost as other apps. They require no additional devices beyond a personal smart device. There are numerous types that address different hearing loss issues.</p> |
| <p>Cons</p> | <p>Music may sound distorted. They typically involve a fixed loop in the space (cannot be moved). They may experience interference from other electronics. They may require periodic maintenance.</p> | <p>They may experience distortion with FM signal. They require additional devices that may be used in conjunction with a hearing aid. They have a limited signal range.</p> | <p>They only amplify the sound in the room, this can result in the background noise of other conversations being picked up in the device. They require proximity to the sound or speaker.</p> | <p>They can run a large range in quality and cost. They can require room installation. They amplify the sound of the speaker but may also transmit feedback noise.</p> | <p>They are generally only useful to severe hearing loss members. They require quickly reading text, which may not be helpful to the visually impaired. They can be costly (per hour rate). They require strong internet, video-conferencing (Skype), and quality room sound for the transcription to work properly.</p> | <p>The apps run the range in quality. They are only as good as the user's device and (for sound amplifiers) internal mic. Depending on the app, they may have limited usage.</p> |
| <p>Cost</p> | <p>\$\$\$</p> | <p>\$\$</p> | <p>\$ to \$\$</p> | <p>\$ to \$\$\$</p> | <p>\$\$ to \$\$\$</p> | <p>\$</p> |

Cost: Lowest cost per unit: \$, Highest cost per unit: \$\$\$