

# JAN

Job Accommodation Network

Practical Solutions • Workplace Success

## Accommodation and Compliance Series

### Employees with Hearing Loss

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A service of the U.S. Department of Labor's Office of Disability Employment Policy

## Preface

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# JAN'S ACCOMMODATION AND COMPLIANCE SERIES

## Introduction

JAN's Accommodation and Compliance Series is designed to help employers determine effective accommodations and comply with Title I of the Americans with Disabilities Act (ADA). Each publication in the series addresses a specific medical condition and provides information about the condition, ADA information, accommodation ideas, and resources for additional information.

The Accommodation and Compliance Series is a starting point in the accommodation process and may not address every situation. Accommodations should be made on a case by case basis, considering each employee's individual limitations and accommodation needs. Employers are encouraged to contact JAN to discuss specific situations in more detail.

For information on assistive technology and other accommodation ideas, visit JAN's Searchable Online Accommodation Resource (SOAR) at <http://AskJAN.org/soar>.

## Information about Hearing Loss

### How prevalent is hearing loss?

According to the National Institute on Deafness and Other Communication Disorders, approximately 15 percent (32.5 million) of American adults report some degree of hearing loss (NIDCD, 2008).

### What is hearing loss?

Hearing loss is a decrease in ability to hear and can occur at birth, suddenly, or gradually over time. Depending on the cause, hearing loss can range from mild to severe and can be reversible, temporary, or permanent (WebMD, 2008). There are three types of hearing loss; conductive, sensorineural, and mixed.

Conductive hearing loss is associated with the bones of the ear, the eardrum, or the membranes that relay sound to the inner ear. Essentially, sound is not conducted through the ear and usually involves a reduction in sound level, or the ability to hear faint sounds. Conductive hearing loss may be caused by fluid build-up from a cold, allergies, ear infections, and benign tumors (ASHA, 2008).

Sensorineural loss is associated with the nerves that transmit messages from the inner ear to the brain. Sensorineural hearing loss involves a reduction in sound level, ability to hear faint sounds, and also affects ability to clearly hear and understand speech. Sensorineural hearing loss can be caused by noise exposure, head trauma, viruses, tumors, birth injury, drugs that are toxic to the auditory system, and genetic syndromes (ASHA, 2008).

Mixed hearing loss is characterized by a combination of both conductive and sensorineural hearing loss, where there is damage in the outer or middle ear as well as in the inner ear or auditory nerve (ASHA, 2008).

### **Can hearing loss be treated or corrected?**

Conductive hearing loss can often be medically or surgically corrected. However, sensorineural hearing loss is a permanent loss that cannot be corrected. Some individuals can benefit from hearing aids and assistive devices that improve hearing and listening abilities. However, in some cases, a hearing aid may not enable an individual to discriminate environmental sounds or clearly understand speech.

A cochlear implant is an assistive device that may be beneficial for some people with hearing loss. A cochlear implant is a device that is surgically implanted into the cochlea and aids the individual in hearing sounds through a magnet attached to a small body-worn computer.

### **What does it mean to have a mild, moderate, severe, or profound hearing loss?**

Degree of hearing loss refers to the severity of the loss. The degree of hearing loss is determined by measuring hearing threshold. Hearing threshold refers to the levels in decibels (dB) at which a signal is just barely heard. A mild hearing loss is characterized as loss at 26-40 dB. Mild hearing loss may result in difficulty hearing soft voices, speakers at a distance, or understanding conversation in noisy environments. A moderate hearing loss is characterized as loss at 41-55 dB and moderate to severe at 56-70 dB. In this range, conversation even in quiet environments can be difficult and speech may need to be loud. A severe hearing loss is characterized as loss at 71-90 dB. At this level, hearing is difficult in all situations. An individual with profound hearing loss, loss at 91+ dB, may not hear even loud speech or sounds. In this instance, hearing would not be used as a primary method for processing information and communicating (House Ear Institute, 2008).

## **Hearing Loss and the Americans with Disabilities Act (ADA)**

### **Is hearing loss a disability under the ADA?**

The ADA does not contain a list of medical conditions that constitute disabilities. Instead, the ADA has a general definition of disability that each person must meet (EEOC Regulations . . . , 2011). Therefore, some people with hearing loss will have a disability under the ADA and some will not.

A person has a disability if he/she has a physical or mental impairment that substantially limits one or more major life activities, a record of such an impairment, or is regarded as having an impairment (EEOC Regulations . . . , 2011). For more information about how to determine whether a person has a disability under the ADA, visit <http://AskJAN.org/corner/vol05iss04.htm>.

### **Is it a reasonable accommodation for an employer to make sure that an employee wears a hearing aid or uses another mitigating measure?**

No. The ADA does not require employers to monitor an employee to ensure that he uses an assistive hearing device. Nor may an employer deny an individual with a hearing disability a reasonable accommodation because the employer believes that the individual has failed to take some measure that would improve his hearing (EEOC, 2006).

### **Must an employer provide a sign language interpreter as a job accommodation?**

An employer may be required to provide a qualified interpreter as an accommodation, absent undue hardship. An interpreter may be requested and required during any stage of the employment process (e.g., interview, training, on-the-job) (EEOC, 1992).

### **Must an employer provide reasonable accommodation, such as a sign language interpreter or realtime CART captioning service, so an employee may attend training programs?**

According to the Equal Employment Opportunity Commission (EEOC), an employer must provide sign language interpreters, CART services, and other reasonable accommodations, that will provide employees with disabilities with an equal opportunity to participate in employer-sponsored training, absent undue hardship. This obligation extends to in-house training, as well as to training provided by an outside entity. Similarly, the employer has an obligation to provide reasonable accommodation whether the training occurs on the employer's premises or elsewhere (EEOC, 2002).

**Is an employer required to purchase a prescribed hearing device (e.g., hearing aid or cochlear implant) as a reasonable accommodation?**

An employer is not required to provide an accommodation that is primarily for personal use. Reasonable accommodation applies to modifications that specifically assist an individual in performing the duties of a particular job. Equipment or devices that assist a person in daily activities on and off the job are considered personal items that an employer is not required to provide. However, in some cases, equipment that otherwise would be considered "personal" may be required as an accommodation if it is specifically designed or required to meet job-related rather than personal needs (EEOC, 2002).

When an employee does not own or benefit from a hearing aid, an employer may be required to provide a reasonable accommodation(s) that will enable effective communication, barring undue hardship.

**Is more information available regarding hearing loss and the ADA?**

Yes. The EEOC enforces the employment provisions of the ADA and offers a fact sheet regarding hearing loss and the ADA. For more information, visit Questions and Answers about Deafness and Hearing Impairments in the Workplace and the Americans with Disabilities Act at <http://www.eeoc.gov/facts/deafness.html>.

## **Accommodating Employees with Hearing Loss**

How people "label" themselves in terms of their hearing loss is personal and may reflect identification with the deaf community or merely how their hearing loss affects their ability to communicate. Generally, the term "deaf" refers to those who are unable to hear well enough to rely on their hearing and use it as a means of processing information. The term "hard of hearing" refers to those who have some hearing and are able to use it for communication purposes (NAD, 2008).

People who are deaf or hard of hearing may develop some of the limitations discussed below, but seldom develop all of them. Also, the degree of limitation will vary among individuals. Be aware that not all people with hearing loss will need accommodations to perform their jobs and many others may only need a few accommodations. The following is only a sample of the possibilities available. Numerous other accommodation solutions may exist.

### **Questions to Consider:**

1. What limitations is the employee with hearing loss experiencing?
2. How do these limitations affect the employee and the employee's job performance?
3. What specific job tasks are problematic as a result of these limitations?
4. What accommodations are available to reduce or eliminate these problems? Are all possible resources being used to determine possible accommodations?
5. Has the employee with hearing loss been consulted regarding possible accommodations?
6. Once accommodations are in place, would it be useful to meet with the employee with hearing loss to evaluate the effectiveness of the accommodations and to determine whether additional accommodations are needed?
7. Do supervisory personnel and employees need training regarding hearing loss?

## Accommodation Ideas:

\*Denotes see Appendix A at the end of the document

### Difficulty Communicating Face-to-Face

- Write notes with pen and paper, tablet PC, dry erase or chalk board, etc.
  - Note: Some individuals who are deaf may not be able to read or write English. A language barrier can exist when American Sign Language (ASL), or some other form of manual or visual communication, is the primary or only language the individual uses. If the individual does not read or write English, written communication will not be an effective form of communication. When written communication is not effective consider providing a qualified sign language interpreter on an as-needed basis.
- Use a computer and keyboard to type messages back and forth
- Use a computer and speech-recognition software to communicate one-on-one
- Send e-mail or text messages as an alternative to face-to-face communication
- Hire a qualified sign language or oral \*interpreter, or \*video remote interpreter (VRI) on an as-needed basis (e.g., during a job interview, orientation, benefits seminar, training, or disciplinary meeting)
  - Note: The Registry of Interpreters for the Deaf (RID) offers an interpreter/agency referral service. Visit [www.rid.org](http://www.rid.org) to locate an interpreter/agency by state or zip code.
- Use a personal \*assistive listening device (ALD) or portable assistive listening system (ALS) if the individual can benefit from amplification
- Use portable \*communication access technology designed for individuals who are deaf or hard of hearing
- Use an \*augmentative and alternative communication device (AAC), with or without speech
- Encourage employees to learn and use basic sign language
- Install mirrors to communicate the presence of other workers or customers (e.g., in areas where an employee's back may be turned) and ask the employee how he or she prefers to be approached so that he or she is not startled
- Position a small sign at the employee's workstation (e.g., check-lane register, help desk) that indicates the person has a hearing loss and that communication should be direct, in writing

- Note: The employee with hearing loss may volunteer to have such a sign at his or her workstation; the employer should not require such a sign.
- Provide disability awareness training when integrating employees who are deaf into the work environment

### **Difficulty Communicating in Groups, Meetings, or Training**

- Meet in a small group and sit at a round table to facilitate lip-reading
- Meet in a quiet room to avoid distractions and exposure to extraneous noise (e.g., office equipment, hallway chatter, machinery, etc.) and if necessary install noise abatement panels to reduce noise
- Adjust lighting and seating to create an optimal listening experience
- Educate staff regarding meeting etiquette (e.g., one person talk at a time, do not cover mouth with hands or papers, maintain eye contact)
- Provide written materials in advance, such as the meeting agenda, training outline, or course materials, or offer minutes afterwards
- Allow extra time for training
- Use an FM, infrared, or induction loop \*assistive listening system (ALS)
- Hire a qualified sign language or oral \*interpreter, or \*video remote interpreter (VRI) on an as-needed basis (e.g., during a job interview, orientation, benefits seminar, training, or disciplinary meeting)
  - Note: The Registry of Interpreters for the Deaf (RID) offers an interpreter/agency referral service. Visit [www.rid.org](http://www.rid.org) to locate an interpreter/agency by state or zip code.
- Contract for on-site or remote real-time captioning services, known as communication access real-time translation or \*(CART)
- Provide computer-assisted note taking where a skilled note taker/typist uses a laptop to compose notes during the meeting
- Record and transcribe meetings
- Caption training DVDs/videos and web-based training modules that include sound
- Use \*relay conference captioning (RCC) during group conference calls

- Use high quality conferencing equipment during group conference calls
- Use a conferencing phone with a headset for more direct sound
- Provide disability awareness training when integrating employees who are deaf into the meeting or training environment

### **Difficulty Communicating by Telephone**

- Use telephone \*amplification/clarity technology
- Use a hearing aid compatible headset or amplified noise canceling headset. Hearing aid compatible headsets are designed for use with t-coil equipped hearing aids.
- Use a \*cochlear implant patch cord
- Use a \*captioned telephone
- Use a \*TTY
- Use a \*voice carry over phone (VCO)
- Use \*video relay service (VRS)
- Use a voicemail transcription service to send an e-mail or a text message of voicemail messages. For employees who are deaf who receive direct calls, voicemail messages could be left so the employee could call the caller back using the relay system.
- Include the \*Telecommunications Relay Service (TRS) number (711) with the employee's business number on his or her business card, as well as a note about using the relay service
- For employees who are severe to profoundly deaf, and who do not use speech, methods for receiving and handling incoming telephone calls include:
  - Use the relay service with a TTY (analog line required) or VCO phone,
  - Use the relay service with PC as a TTY (software),
  - Use the relay service with videophone equipment (video relay (VRS) calls), or
  - Use an interpreter to interpret calls
- Use e-mail or instant messaging (IM) instead of voice phone
- Use mobile two-way text messaging instead of voice phone

- Use \*Bluetooth technology and mobile phone amplification and clarity devices with cell phone
- Use \*relay conference captioning (RCC) during group conference calls
- Use high quality conferencing equipment during group conference calls
- Use a conferencing phone with a headset for more direct sound

### **Difficulty Communicating in the Field**

- Use a high-end professional two-radio system with noise-canceling technology
- Use a two-way radio with text-messaging capability
- Use a cellular phone with text messaging, a two-way mobile device, or a cellular phone that has both text messaging and two-way radio capability
- If "in the field" communication takes place within sight, workers may be able to use hand signals and signs to communicate instead of two-way radios
- Use a portable TTY and relay service

### **Safely Operating or Working Around Vehicles**

- Establish set paths of travel for industrial vehicles and pedestrians using industrial tape, paint, or ropes
- Establish and enforce rules requiring all moving equipment, forklifts, and vehicles to stop and flash lights/beep horn at intersections
- Install flashing strobe lights on moving vehicles
- Install a \*directional worker alert system that provides a visual warning of oncoming vehicles
- Install industrial mirrors in strategic locations (e.g., blind corners) at the work environment
- The individual who is deaf or hard of hearing may be willing to wear a hat or vest of a unique color to serve as a warning to others to be cautious
  - Note: An employer should not require such a vest or hat if other employees do not wear such vests or hats.

- Use a \*vibrating personal pager to alert the person who is deaf. Pagers can be useful when it is possible to have another employee send a warning signal to the person who is deaf.
- Install a \*vehicle rear vision system in the forklift or other vehicle, to improve the operator's ability to visually assess the environment

### **Difficulty Responding to Sounds in the Environment**

- Use a visual or vibrating \*alerting device
  - Note: Alerting devices are used to alert people to a broad range of sounds, including (but not limited to) abnormal machine sounds, timers, a telephone ringing, doorbell, baby crying, and emergency signals.
- Modify equipment by adding a light to the sound source
  - Note: Speak with the manufacturer of the equipment for suggestions before making modifications and consult with an electrician, or appropriate professional.
- Install lighted fire strobes and other visual or vibrating alerting devices to supplement audible alarms
- Provide a vibrating text pager that may be triggered by the emergency alerting system or establish a web-based text alert system
- Allow the employee to bring his or her \*hearing dog into the workplace

### **Difficulty Wearing Hearing Protection**

- Turn-off hearing aids and use ear muffs
- Turn-off hearing aids and use \*active hearing protection, ear muffs that block sound but use electronic circuitry to transmit low-level sounds through the earmuffs
- Remove hearing aids and use ear plugs or muffs
- Turn-off/remove hearing aids and use communication headset that provides noise attenuation and radio communication
- Use hearing aid turned-off, with no protector, only if the ear piece of the hearing aid is not vented and fits snugly in the ear
- Use custom-made hi-fidelity ear plugs; see an audiologist

## **Situations and Solutions:**

A nurse with a hearing impairment worked the night shift and had to talk to doctors who called for information. She was having difficulty hearing over the telephone. The employee asked to be moved to a dayshift where there would be other nurses who could talk to the doctors but there were not any openings on the dayshift. The employer purchased a telephone amplifier, which enabled the nurse to hear effectively over the telephone. According to the employer, the accommodation helped the employee serve patients better. Cost \$50.

An electric serviceman with progressive hearing loss sometimes worked in a bucket truck and needed to communicate to coworkers. The usual method of communication was via a radio. The employer switched to cell phones and the employee was able to use text messaging to communicate. The employer reported the accommodation improved communication and kept a valuable employee. Cost \$500.

A government employee who was deaf was not communicating effectively with coworkers. The employer provided video relay interpreting equipment and service access. According to the employer, the accommodation improved communication. Cost \$200.

A professional employee with a hearing loss had difficulty responding when "on call." The employee stated she could not be "on call" because at night she takes her hearing aids out and cannot hear the phone ring. The employer contacted JAN looking for accommodation ideas that would satisfy both the individual and the employer's needs. JAN suggested the use of a vibrating pager or personal alerting device, and to clarify with the employee what the essential functions of the position are. The employer purchased a vibrating bed shaker, telephone receiver, and transmitter to send the signal to the bed shaker. The employee could then be alerted to the telephone ringing at night. Cost \$125.

An employee working in an office environment had hearing loss due to tinnitus and hyperacusis. She could not be around noise in the office environment for long periods of time. The individual's employer provided her with a private room to work in alone. This was reported to be very effective. Cost \$0.

An employer was considering hiring an employee with a severe hearing impairment to be a material handler. The employer had some safety concerns and called JAN seeking accommodation ideas for working around forklift traffic and running machinery. JAN suggested the employer set paths of travel for forklifts and pedestrians, provide mirrors, require that all vehicles to stop at each intersection, install strobe lights on the equipment, ask the individual if he would feel comfortable wearing a bright colored vest or hard hat, and provide a personal vibrating pager to be activated by a coworker in dangerous situations. Cost not reported.

A state employer had several employees who were deaf or hard of hearing. These employees needed to respond to emergency signals and communicate in emergency. Each employee was provided with a vibrating pager that was connected to the alarm system. When the alarm sounded they were paged. Laminated note cards with communication options and flashlights to assist with signs or lip reading were also provided. Cost not reported.

A medical technician who was deaf could not hear the buzz of a timer, which was necessary for specific laboratory tests. An indicator light was attached to the equipment. Cost \$27.

A field geologist who was deaf and worked alone in remote areas was unable to use two-way radio communication to report his findings. Text telephone technology was used to allow the geologist to communicate using a cellular telephone. Cost \$400 plus monthly service fee for the phone.

Interested in hiring a candidate who was deaf, a bank manager called JAN for assistance. The position required conversations with hearing customers. JAN suggested communication access technology that enables two people to type to each other while facing each other. Using the equipment, the teller and customer would be able to type their conversation, both viewing the text on a personal screen. This technology would also enable bank customers who are deaf or hard of hearing to access banking services. Cost \$1,995.

A physical therapist who attended weekly staff meetings and occasional training was having difficulty participating in groups due to hearing loss. She wore hearing aids and could benefit from amplification, but sometimes found it difficult to follow-along during long meetings or training seminars. For short staff meetings, JAN suggested a round meeting table to make it easier to read lips and follow sounds and an assistive listening system with a table microphone. CART captioning service was suggested for longer meetings and training seminars. Remote CART, where the CART writer listens-in from another location and creates captions over the Internet, could be used for the longer meetings. It was also suggested that the employee obtain written materials (e.g. agenda, text books, outlines, etc.) prior to the meeting/training and minutes afterwards. Cost not reported.

**Products:**

There are numerous products that can be used to accommodate people with limitations. JAN's Searchable Online Accommodation Resource (SOAR) at <http://AskJAN.org/soar> is designed to let users explore various accommodation options. Many product vendor lists are accessible through this system; however, upon request JAN provides these lists and many more that are not available on the Web site. Contact JAN directly if you have specific accommodation situations, are looking for products, need vendor information, or are seeking a referral.

## Appendix A

### **Active Hearing Protection**

Active hearing protectors use electronics to amplify signals, voices, and warning signals while suppressing harmful noise levels. Hearing protection products have a Noise Reduction Rating (NRR), which is the measure, in decibels, of how well a hearing protector reduces noise; the higher the number, the greater the noise reduction. For example, a rating of NRR 31 provides greater noise reduction than NRR 24.

### **Alerting Device**

An alerting device can be used to notify a person with hearing loss about sounds in the environment. An individual can be alerted to sounds like a telephone ringing, a doorbell or an emergency alarm, through vibration or a light signal. A transmitter detects certain sounds and then sends a signal to a receiver that vibrates or blinks a light.

### **Amplification/Clarity Technology**

Amplification makes it possible for people with hearing loss to benefit from increased volume when using landline and cellular telephones. Amplification can be achieved by using an in-line amplifier that is connected between the handset and the base unit of the phone; by using a portable amplifier that can be placed over the handset; by using an assistive listening device, neck loop, or hearing aid compatible headset; or by adjusting the sound level buttons on a telephone unit. The level of amplification required depends on the individual's specific needs, but the amplification available from most telephone technology can range from about a 23 decibel (dB) gain to up to a 50 dB gain above normal conversation level. dB is a measurement of sound intensity. For example, normal conversation occurs at about 60 dB and the sound of a car horn falls at about the 110 dB range.

Clarity technology enables individuals with sensory neural hearing loss, or high frequency loss, to receive enhanced sound clarity. This technology digitally alters tones, shapes sound, removes distortions, and amplifies desired sounds to make speech clearer and easier to understand. For example, clarity technology makes it possible to hear the difference between high frequency sounds like "ch" and "st."

### **Assistive Listening Device or System (ALD/S)**

An ALD is a type of assistive technology that enables an individual who benefits from amplification to focus directly on the sound source, reducing distractions from background noises that can make it difficult to concentrate during a conversation. ALD types include personal assistive listening devices, small and large area FM systems, infrared, and induction loop technologies. The speaker talks into a microphone or transmitter and the listener either uses the T-switch on his/her hearing aid or wears a receiver designed to work with the specific assistive listening device.

### **Augmentative and Alternative Communication Device (AAC)**

AAC devices enable individuals with speech and language limitations to communicate. Dynamic display speech-output solutions allow users to select the words or phrases they want to say from a series of customized pages on a touch screen. Type and talk devices allow users with some literacy skills and motor function to generate electronic speech by typing words on a keyboard. Handheld speech-output devices give users a portable communication option.

### **Bluetooth**

Bluetooth technology provides wireless communication between hearing aid wearers and Bluetooth enabled phones or other devices and allows the hearing aid and wireless device to connect digitally, thus avoiding interference common with other types of wireless transmission.

### **Captioned Telephone**

A captioned phone works like any other telephone but it displays live captions of the conversation. The phone automatically connects to a captioning service where a trained operator transcribes what is being said using voice recognition technology. This same service is also available over the Internet. The person makes or receives phone calls using any phone, while viewing captions of the call in the Internet browser window on his or her computer.

### **Cochlear Implant Patch Cord**

For people with cochlear implants, there are cochlear patch cords that can be used with telephones. A cochlear implant patch cord is a short wire that enables a connection between a cochlear implant (CI) speech processor and the jack of the equipment the CI user is listening to.

### **Communication Access Technology**

Communication access technology is assistive technology that is uniquely designed to be used by and with individuals who are deaf or hard of hearing. This type of equipment offers such features as speech to text, speech to video sign language, speech to computer-generated voice, text to computer-generated voice or video sign language, and face-to-face text communication solutions.

### **Directional Worker Alert System**

A directional worker alert system alerts pedestrians and other drivers that a forklift is coming. This wall mounted device employs a photo-sensor that sends out a red light beam to detect a reflective strip mounted on the forklift. The warning is activated when a forklift or other vehicle passes the alert system.

### **Hearing Dog (or Hearing-Ear Dog)**

A hearing dog is trained to alert the person with hearing loss to sounds such as a fire/smoke alarm, telephone ringing, door knock, doorbell, ringing timer or alarm clock, and a name call.

### **Relay Conference Captioning (RCC)**

Relay Conference Captioning (RCC) is a service that provides functional equivalency to deaf and hard-of-hearing participants in conference calls and/or multi-party calls. The service uses captioners that deliver realtime text streamed to an Internet-connected computer. During captioned conference calls, participants can follow along with the dialogue by reading realtime captions.

### **Sign Language Interpreter (Interpreter)**

Sign Language/spoken English interpreters are highly skilled professionals that facilitate communication between hearing individuals and individuals who are deaf or hard-of-hearing (RID, 2008).

### **Telecommunications Relay Service (TRS)**

Telecommunications Relay Service (TRS) is a telephone service that allows persons with hearing or speech disabilities to place and receive telephone calls. TRS is available in all 50 states, the District of Columbia, Puerto Rico, and the U.S. territories for local and/or long distance calls. Dial 711 to connect to certain forms of TRS anywhere in the United States.

TRS uses operators, called communications assistants (CAs), to facilitate telephone calls between people with hearing and speech disabilities and other individuals. A TRS call may be initiated by either a person with a hearing or speech disability, or a person without such disability. When a person with a hearing or speech disability initiates a TRS call, the person uses a TTY or other text input device to call the TRS relay center, and gives a CA the number of the party that he or she wants to call. The CA in turn places an outbound traditional voice call to that person. The CA then serves as a link for the call, relaying the text of the calling party in voice to the called party, and converting to text what the called party voices back to the calling party. For further information, visit the Federal Communications Commission Consumer Fact Sheet found at <http://www.fcc.gov/cgb/consumerfacts/trs.html>.

### **TTY**

A TTY is a text telephone device that enables individuals who are deaf, hard of hearing, or who have a speech impairment, to make and receive telephone calls through interactive text based transmission of coded signals across a telephone network. TTY calls can be made using internet-based relay services. Using a PC or wireless device, a text call can be made over the Internet using the relay service without a TTY.

**Vehicle Rear Vision System**

A video-camera system that provides rear, side, and forward views on a monitor located inside a moving vehicle.

**Vibrating Personal Pager**

A wireless alerting system used to summon help or get a person's attention by simply pushing the button on the pager transmitter. The portable pager receiver chimes or vibrates in response to receiving a signal from the transmitter.

**Video Relay Service (VRS)**

VRS is a form of Telecommunications Relay Service (TRS) that enables persons with hearing disabilities who use American Sign Language (ASL) to communicate with voice telephone users through video equipment, rather than through typed text. Video relay calls are made using a high-speed or broadband Internet connection (i.e., DSL, cable, or T1 line) and a videophone connected to a TV, or through a personal computer equipped with a Web camera and video relay software. The person who is deaf signs to a video interpreter who then communicates with a hearing person via a standard phone line by relaying the conversation between the two parties. For information, visit Video Relay Services FCC Consumer Facts found at <http://www.fcc.gov/cgb/consumerfacts/videorelay.html>.

**Video Remote Interpreter/Interpreting Services (VRI)**

Video interpreting is a service that uses web-based technology for on-demand access to remote sign language interpreting services. Using video interpreting, an individual who signs can access interpreting services using a computer, webcam, and a high-speed broadband connection.

**Voice Carry Over (VCO)**

VCO is a telephone option for a person who uses his or her own voice, but cannot hear. The phone receives TTY messages, but the caller with hearing loss responds to the message using voice. Using VCO, the person who is deaf places a call to the Telecommunications Relay Service. The relay operator types messages to the VCO user, and the VCO user responds to the voice caller with his or her own voice instead of using a TTY.

## Resources

### **Job Accommodation Network**

West Virginia University  
PO Box 6080  
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Toll Free: (800)526-7234  
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jan@AskJAN.org  
<http://AskJAN.org>

The Job Accommodation Network (JAN) is a free consulting service that provides information about job accommodations, the Americans with Disabilities Act (ADA), and the employability of people with disabilities.

### **Office of Disability Employment Policy**

200 Constitution Avenue, NW, Room S-1303  
Washington, DC 20210  
Toll Free: (866)633-7365  
TTY: (877)889-5627  
Fax: (202)693-7888  
<http://www.dol.gov/odep/>

The Office of Disability Employment Policy (ODEP) is an agency within the U.S. Department of Labor. ODEP provides national leadership to increase employment opportunities for adults and youth with disabilities while striving to eliminate barriers to employment.

### **Alexander Graham Bell Association for the Deaf and Hard of Hearing**

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Fax: (202)337-8314  
info@agbell.org  
<http://www.agbell.org>

Emphasizes the use of technology, speech, speech reading, residual hearing, and written and spoken language. Focuses specifically on children with hearing loss, providing ongoing support and advocacy for parents, professionals, and other interested parties.

**American Academy of Audiology**

11480 Commerce Park Drive  
Suite 220  
Reston, VA 20191  
Toll Free: (800)222-2336  
Fax: (703)476-5157  
infoaud@audiology.org  
<http://www.audiology.org>

The American Academy of Audiology promotes quality hearing and balance care by advancing the profession of audiology through leadership, advocacy, education, public awareness, and support of research.

**American Speech-Language-Hearing Association**

2200 Research Blvd  
Rockville, MD 20850  
Toll Free: (800)638-8255  
TTY: (301)296-8580  
<http://www.asha.org>

Promotes the interests of, and provide the highest quality services for, professions in audiology, speech-language pathology, and speech and hearing science; and an advocate for people with communication disabilities.

**American Tinnitus Association**

522 S.W. Fifth Avenue  
Suite 825  
Portland, OR 97204  
Toll Free: (800)634-8978  
Direct: (503)248-9985  
Fax: (503)248-0024  
tinnitus@ata.org  
<http://www.ata.org>

Strives to silence tinnitus through education, advocacy, research, and support. This nonprofit organization provides the latest information and resources to tinnitus patients, promotes tinnitus awareness to the general public and the medical community, and funds the nation's brightest tinnitus researchers.

**Better Hearing Institute**

1444 I Street, NW  
Suite 700  
Washington, DC 20005  
Direct: (202)449-1100  
mail@betterhearing.org  
<http://www.betterhearing.org>

A nonprofit, educational organization that implements national public information programs on hearing loss and available medical, surgical, hearing aid, and rehabilitation assistance for millions with uncorrected hearing problems. BHI maintains a toll-free Hearing HelpLine telephone service that provides information on hearing loss and hearing help.

**Hearing Loss Association of America**

7910 Woodmont Ave.  
Suite 1200  
Bethesda, MD 20814  
Direct: (301)657-2248  
<http://www.hearingloss.org>

The Mission of HLAA is to open the world of communication to people with hearing loss by providing information, education, support and advocacy. Its primary purpose is to educate families, coworkers, teachers, hearing health care providers, industry, government, and others about hearing loss.

**National Association of the Deaf**

8630 Fenton Street, Suite 820  
Silver Spring, MD 20910-3819  
Direct: (301)587-1788  
TTY: (301)587-1789  
Fax: (301)587-1791  
<http://www.nad.org>

Consumer organization safeguarding the accessibility and civil rights of deaf and hard of hearing Americans in education, employment, health care, and telecommunications. Focuses on grassroots advocacy and empowerment, captioned media, deafness-related information and publications, legal assistance, policy development, and research, public awareness, certification of interpreters, and youth leadership development.

**National Institute on Deafness and Other Communication Disorders Information Clearinghouse****National Institutes of Health**

National Institutes of Health  
31 Center Drive, MSC 2320

Bethesda, MD 20892-2320  
Toll Free: (800)241-1044  
TTY: (800)241-1055  
nidcdinfo@nidcd.nih.gov  
<http://www.nidcd.nih.gov/>

National Resource center for health information about hearing, balance, smell, taste, voice, speech, and language for health professionals, patients, industry, and the public.

**Starkey Hearing Foundation**

6700 Washington Avenue South  
Eden Prairie, MN 55344  
Toll Free: (866)354-3254  
Fax: (952)828-6900  
hearingfoundation@starkey.com  
<http://www.starkeyhearingfoundation.org>

This national program provides assistance to individuals and families with limited financial resources. HEAR NOW maintains the National Hearing Aid Bank, which provides new and reconditioned hearing aids to deaf and hard of hearing people who cannot afford them. These hearing aids are distributed through hearing health care providers in communities nationwide. HEAR NOW also has a Cochlear Implant Program that raises funds to provide cochlear implants and related services to both adults and children. In addition, HEAR NOW has developed the National Hearing Assistance Directory (NHAD), which provides state-by-state listings of financial and social resources offered through government agencies and private organizations.

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