Assistive Listening Devices for People With Hearing Loss

A Guide for Performing Arts Settings

Revised Edition
February 2005

The Kennedy Center
THE JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS

The Kennedy Center

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The Kennedy Center

The John F. Kennedy Center for the Performing Arts has long been in the forefront of reaching out and making the performing arts accessible to people with disabilities. In addition, it has a strong commitment to creating innovative and effective educational programs, models, and resources for the arts community. Melding these two goals together, the Kennedy Center has launched an initiative to create a series of practical guides about accessible and universally usable arts programs and facilities.

Since there are some 54 million potential theater-goers with disabilities, 24 million of whom are deaf or hard of hearing, the Kennedy Center recognizes that providing access is not only a mandate of Federal law, but also an asset to be valued in bringing in and keeping new audiences as their lives change.

The Kennedy Center works to ensure that programs, performances, events, and facilities are fully accessible to people with disabilities. We are eager to find solutions to challenges and to share these solutions with others in the field of arts and accessibility. We hope this guide will be useful and will assist in fulfilling the ultimate goal of making the arts accessible to everyone.

Sincerely,

Darrell M. Ayers
Vice President, Education

Part I

To Begin

Include the Community

Always include knowledgeable people with disabilities in an advisory capacity when purchasing equipment or providing accommodations for accessibility. Your state, county, or city may have a commission, council, or service center of the deaf and hard of hearing, where you can get recommendations for the best assistive listening devices to use in your venue as well as referrals to vendors or a technical resource center where you can examine and test the equipment.

Other good resources include local or national chapters of organizations that provide services to individuals who are deaf or hard of hearing such as:

Self Help for Hard of Hearing People, Inc.
7910 Woodmont Avenue
Suite 1200
Bethesda, MD 20814
(301) 657-2248 Voice
(301) 657-2249 TTY
(301) 913-9413 Fax
Email: info@hearingloss.org
Web Site: www.shhh.org

Association of Late-Deafened Adults, Inc. (ALDA)
1131 Lake Street
Suite #204
Oak Park, IL 60301
(877) 907-1738 Voice/Fax
(708) 358-0135 TTY
Web Site: www.alda.org

Alexander Graham Bell Association for the Deaf and Hard of Hearing
3417 Volta Place, N.W.
Washington, DC 20007-2778
(202) 337-5220 Voice
(202) 337-5221 TTY
(202) 337-8314 Fax
Email: info@agbell.org
Web Site: www.agbell.org

National Association of the Deaf
814 Thayer Avenue
Silver Spring, MD 20910
(301) 587-1788 Voice
(301) 587-1789 TTY
(301) 587-1791 Fax
Email: NADinfo@nad.org
Web Site: www.nad.org

Know Your Legal Obligations

Many theaters and other performance venues are unaware of their legal obligations to provide effective communication for patrons who are deaf or hard of hearing. Effective communication includes, but is not limited to, such tools as assistive listening devices (ALDs). To determine whether your theater is required to have a permanently installed assistive listening system under the requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG), answer the following questions:

1) Does the theater have fixed seats (seats that are not intended to be removable)? yes no

2) Does the theater accommodate 50 or more patrons? yes no

3) Does the theater have an audio amplification system? yes no

If the answers are "yes" to #1 and "yes" to either #2 or #3, then the theater is obligated to have a permanently installed assistive listening system. Otherwise there must be enough electrical outlets to accommodate the use of a portable system.

The Americans with Disabilities Act Accessibility Guidelines (ADAAG) also specify the number of receivers that must be available and require that appropriate signage be displayed. If you are required to have a permanently installed system, you must have four receivers for every 100 seats in your theater. You are also required to post signs with the international symbol of access for hearing loss to notify your patrons that the assistive listening devices are available. Although the ADAAG does not state where signs should be

Assistive Listening Equipment Available

sample sign

posted, it is advisable to place signs in highly visible and prominent areas such as near your box office, main entrance, or front door, in the theater lobby, and at the location where the receivers are distributed.

The Access Board is in the process of updating the Americans with Disabilities Act Accessibility Guidelines (ADAAG). Hence, these rules may change. Be sure to check the Access Board for the most current regulations and guidelines.

For technical assistance, information on legal requirements, or to get the complete Americans with Disabilities Act Accessibility Guidelines (ADAAG) contact:

Access Board
1331 F Street, NW, Suite 1000
Washington, DC 20004
(800) 872-2253 Voice
(800) 993-2822 TTY
Email: info@access-board.gov
Web site: www.access-board.gov

Disability and Business Technical Assistance Centers (DBTAC)
To contact the DBTAC closest to you call (800) 949-4232 (Voice/TTY) or visit www.adata.org

U.S. Department of Justice
Civil Rights Division
Disability Rights Section - NYAV
950 Pennsylvania Avenue, NW
Washington, D.C. 20530
(800) 514-0301 Voice
(800) 514-0383 TTY
Web site: www.ada.gov

Part II

What is an Assistive Listening Device?

Who Uses Assistive Listening Devices?

Assistive Listening Devices (ALDs) are technologies developed to enhance the ability of a person with a hearing loss to hear better. These devices can be used with a television set, in small gatherings, in class or meeting rooms, and in venues such as auditoriums, churches, lecture halls, and theaters.

Assistive Listening Devices (ALDs) bring sound to the listener without interference or loss of intelligibility by improving the noise-to-sound ratio. These devices tap directly into the source of the sound by using a microphone on or directed at the stage, microphones worn by performers, or by patching directly into the sound-board/mixer in the theater.

One in 11 individuals experiences some level of hearing loss. In America, an estimated 22 to 24 million people have hearing loss – approximately eight percent of the population. Of these, approximately 19 million have some residual hearing that enables them to benefit from the use of assistive listening devices – 15 million people who can benefit from the use of ALDs do not use hearing aids and four million use hearing aids.

Sources: SHHH and the Hearing Journal Census Bureau 1997 survey; The Access Board, Data on Disability, National Health Interview Survey for 1983-1985; and the National Academy on an Aging Society, *Challenges for the 21st Century: Chronic and Disabling Conditions*, Issue 2, December 1999.

ALDs are most effective at providing access for people with mild to moderate hearing loss. Some individuals with more severe hearing loss may benefit, but theaters should explore additional means of providing effective communication, such as captioning and/or sign language interpreting, for patrons and visitors who have more severe or complete hearing loss.

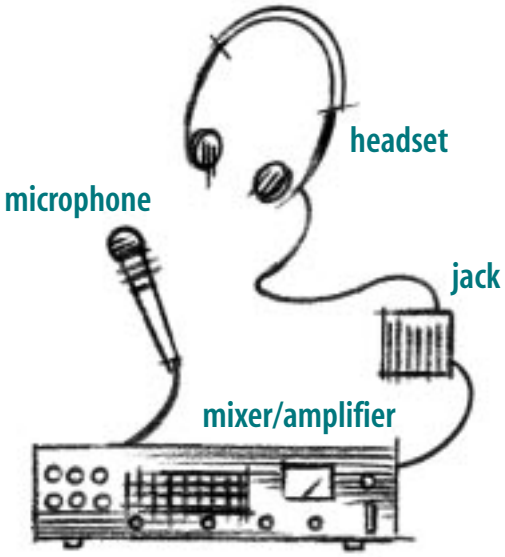
How Assistive Listening Devices Work

There are four types of ALDs. All systems include a microphone, mixer/amplifier, transmitter, receiver, and coupling devices such as headsets. The mixer/amplifier and transmitter/emitter are frequently one unit. The receivers may or may not have built in headsets, and there are several kinds of coupling devices.

Definition of Four Systems

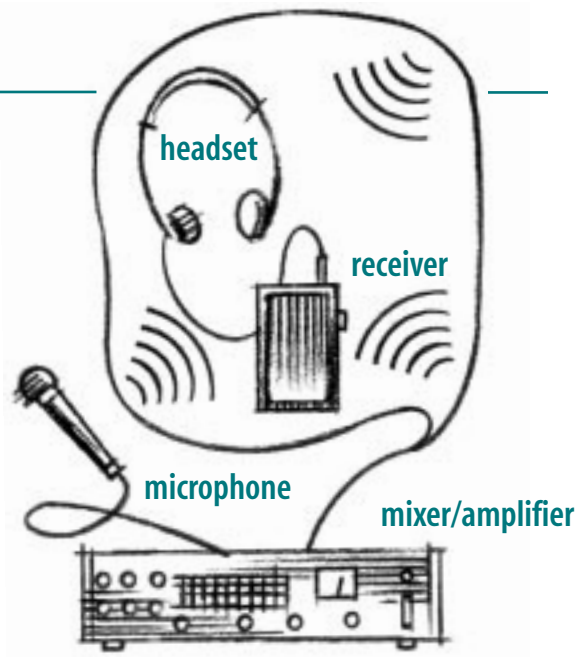
1 Hardwire System

The hardwire system is a closed system in which the sound is never broadcast outside of the cables. This is similar to the type of system used in airplanes where the headset is plugged directly into the jack at the seat.



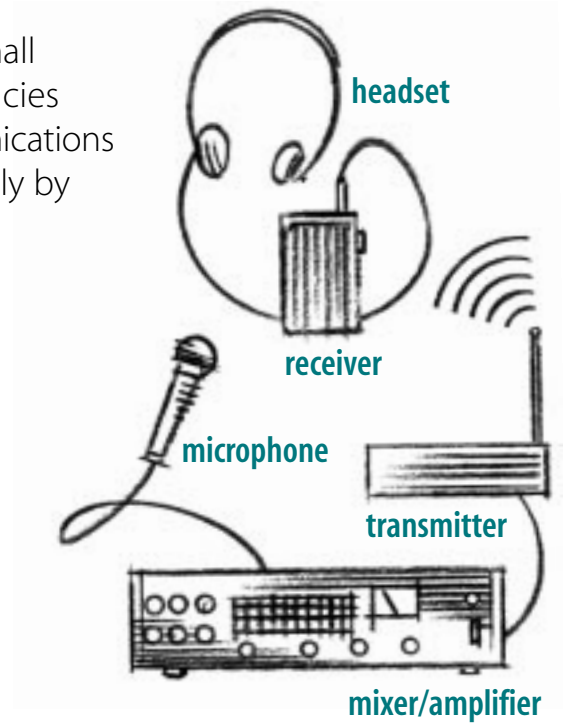
2 Induction Loop System

The induction loop system broadcasts electromagnetic current within an area encompassed by a big directional cable antenna. To get amplification an individual must be seated within the area that the cable circles.



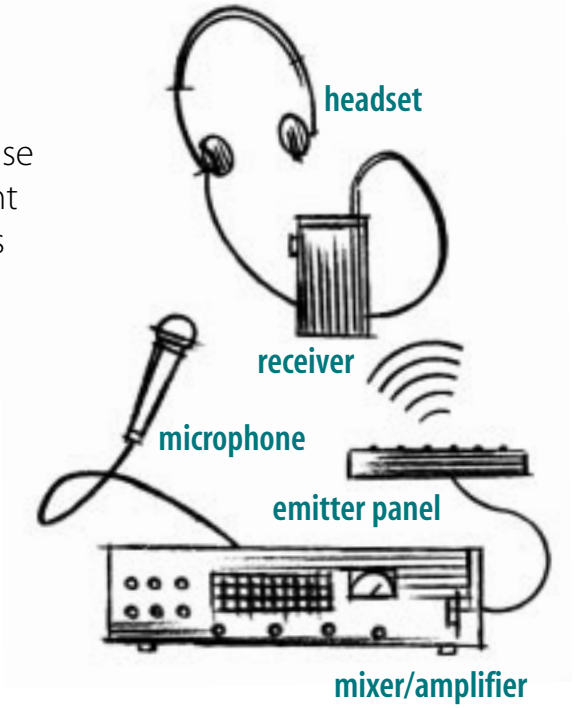
3 FM System

The FM system operates like a small radio station with pre-set frequencies restricted by the Federal Communications Commission (FCC) for use primarily by Assistive Listening Devices.



4 Infrared System

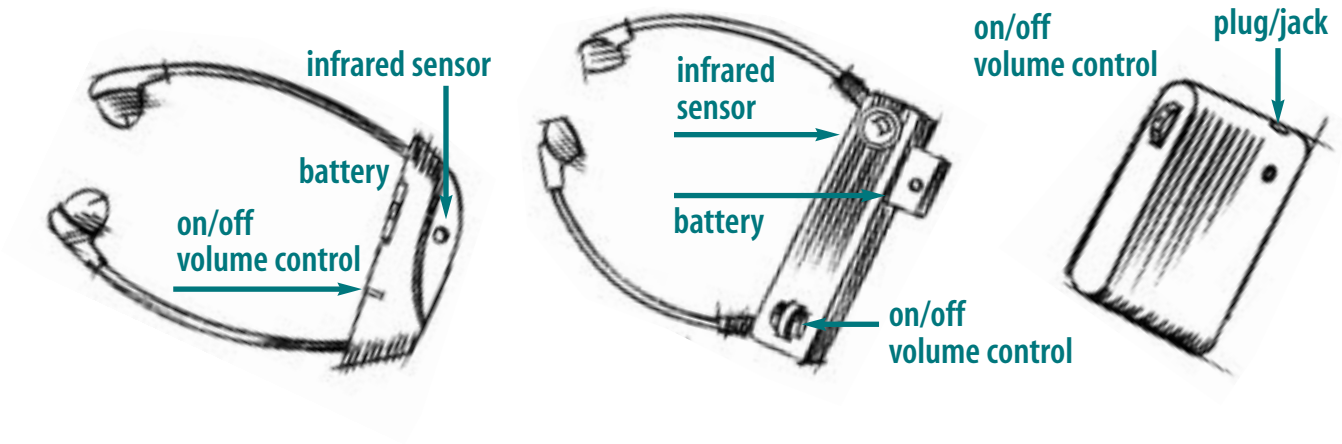
The infrared system is sometimes called a "line of sight" system because the receiver must be in line of sight of the emitter since infrared waves will not go through solid objects.



Part II What is an ALD?

Types of Receivers

To accommodate the widest range of users with varying degrees of hearing loss and to be compatible with hearing aids and cochlear implants, the receivers must have an output jack. The jack allows the user to plug in a number of different coupling devices.

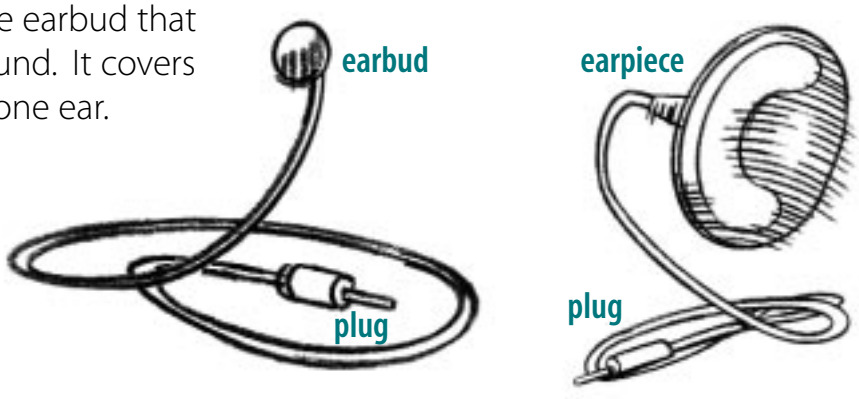


Types of Headsets and Coupling Devices

Different people prefer and benefit from different types of headsets and coupling devices. Have a variety of coupling devices available so that your patrons can choose the type of receiver and coupling device combination that ensures maximum benefit from the Assistive Listening Devices (ALDs).

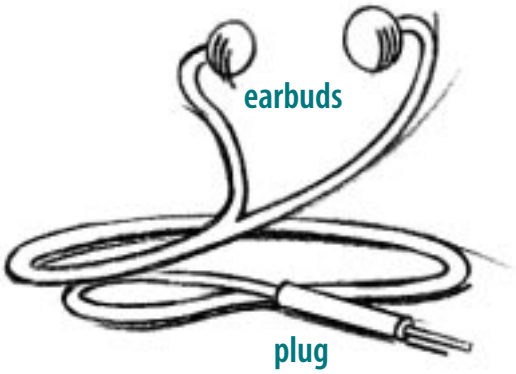
1 Monaural Headset

A headset with one earbud that provides mono sound. It covers or is inserted into one ear.



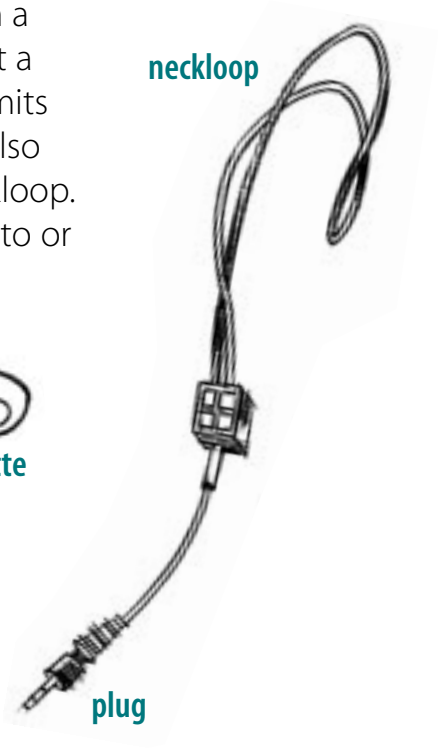
❷ Binaural Headset

A headset with two earbuds covers or is inserted into both ears. Sometimes binaural headsets are monaural instead of stereo, thus receiving only half of the broadcast information.



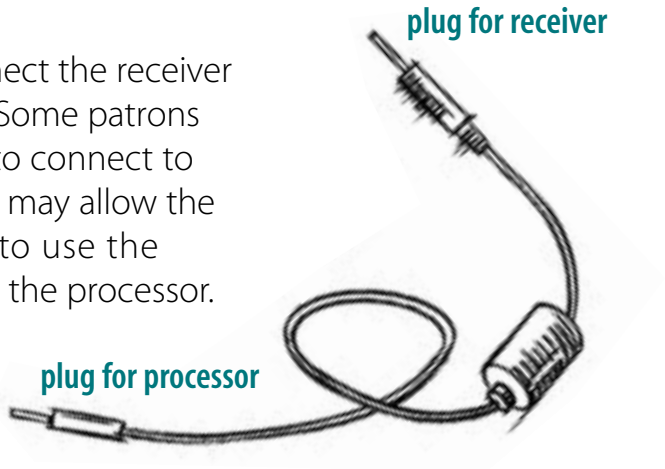
❸ Induction Neckloop and Silhouettes

Used only by a person who has a hearing aid with a T-switch (a telecoil switch– some people will call it a telephone switch). The induction neckloop transmits directly to the individual's hearing aid. There are also silhouettes that work in the same way as the neckloop. The silhouette goes behind the patron's ear, close to or touching the hearing aid.



4 Cochlear Implant Patchcord

A patchcord can be used to connect the receiver to a patron's cochlear processor. Some patrons may have their own patchcords to connect to the receiver. Newer technologies may allow the person with a cochlear implant to use the induction neckloop to couple to the processor.



Quality and Effectiveness

How the sound is fed into the system will have a significant impact on the quality and effectiveness of the ALDs. The further the microphone is away from the sound source, the more distorted the sound becomes. Microphones will pick up ambient noise, such as the sound of heating and cooling fans, audience members rustling, and lighting equipment humming, which will be transmitted to the ALDs. Investing in a top-quality directional microphone or getting the microphones on or as close to the performers as possible will greatly improve the sound produced through the ALDs.

Additional Resources:

The Access Board has three excellent documents titled:

- ALS Bulletin for Consumers
- ALS Bulletin for Installers
- ALS Bulletin for Providers

These can be found at:
www.access-board.gov/publications/bulletins/als-index.htm

Part III

Things to Consider Before Purchasing Assistive Listening Devices

Portability

Will the system be permanently installed or will it be portable? Some systems lend themselves to being moved from space to space. Portable systems can come with a charger that looks like a large briefcase that both stores and re-charges the receivers. FM systems tend to be the easiest to use if they are being moved from space to space.

Physical Obstructions

Obstructions such as support pillars, walls, deeply recessed boxes, or balcony overhangs can block an infrared signal. In spaces with lots of physical obstructions, there may be a need to have more emitter panels to improve reception with an infrared system. FM signals may experience minor interference from physical obstructions but the interference is usually not significant enough to affect quality of sound.

Interference

Electromagnetic, light, and radio signals can cause interference to FM and/or infrared signals. For example, infrared systems are less effective in environments that are brightly lit with natural or fluorescent light. FM systems can pick up other FM transmissions if the channels are close to one another on the spectrum of potential channels.

Overlap

Facilities with multiple venues may experience overlapping FM signals if more than one system is being used simultaneously on or near the same channel.

Size

Selecting an appropriate transmitter or emitter for the size of the theater or other venue is very important.

- There are small FM transmitters developed for use in classrooms that are adequate if the receiver is never farther than 25 to 30 feet from the transmitters. Large FM transmitters usually can cover anywhere from 200 to 500 feet and can be boosted with the use of a more powerful antenna.
- There are small and large infrared emitters that cover different ranges. It is important to have a knowledgeable person assist with determining the size and quantity of emitters necessary to cover a performance space adequately.

Location

The location of the transmitter or emitters is very important.

- Infrared emitters are directional. Think of an emitter as transmitting light in a cone that radiates out from the emitter panel. Anything outside of that cone will not receive the transmission. A sound technician/contractor experienced with infrared systems can maximize the coverage by an emitter and determine exactly how many emitter panels will be needed to cover a specific area. Two of the most frequent mistakes made with infrared devices are (1) not purchasing enough emitters to cover the area and (2) not maximizing the coverage because the emitters are positioned incorrectly.

- Because FM systems are less discriminating when it comes to directionality, placement of the

transmitter is usually less crucial but proper placement can enhance the quality of the sound. The more objects that the signal has to go through to reach the receiver, the more it can become distorted. Think about how the radio reception in your car is affected when you go through a tunnel. Placing the transmitter or the antenna for the transmitter at the front of the theater facing the audience will maximize reception. Antennas and transmitters in the back of the theater or behind the audience will be less effective.

Usage

Consider whether the system will be used for Audio Description or simultaneous translation. Both FM and Infrared systems are available as single or multiple channel systems. Multiple channel systems allow one system to be used for more than one purpose simultaneously. For example, a two-channel system, one channel can be used for assistive listening and the other for audio description at the same performance. Multiple channel systems tend to be more expensive and require a receiver with a switch to select channels. However, a multiple channel system may be less expensive than having two completely separate systems.

Additional Information:

"Demystifying Assistive Listening Devices" 1999
By Cheryl D. Davis, Ph.D
A comprehensive slide show describing in more detail how ALDs work. This is an excellent resource to review before purchasing equipment.

Northwest Outreach Center
Regional Resource Center on Deafness
Western Oregon University
davisc@wou.edu
www.wou.edu/education/sped/nwoc/demyst/

Part IV

After You Have Purchased Your Assistive Listening Devices

Once you have invested in an assistive listening system, it makes good common sense to plan for maintenance, train your staff, and establish an effective distribution system. There is probably nothing more frustrating than looking forward to a delightful evening at the theater only to find that you cannot hear what is being said because the battery on your ALD is not charged, someone forgot to turn on the system, or the staff does not know where the equipment is kept.

Plan for Maintenance

Cleaning and Storing the Equipment

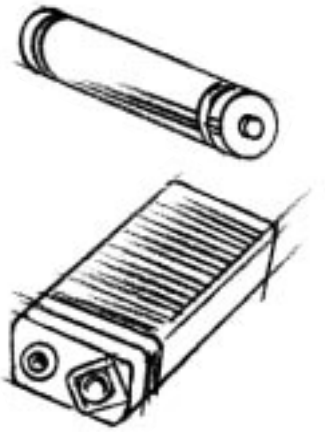
Keeping the earbuds (the parts that go in or over the ears) clean is important for health and safety. Many earbuds are made of hard plastic that can be carefully swabbed with alcohol wipes, or have disposable rubber or foam covers that can simply be replaced after each use.

Some ALDs can be purchased with a storage case. In FM systems these look like a large briefcase that doubles as storage and battery charger. Otherwise, you will want to keep your equipment in a dry, temperate, dust-free place where it is not going to get damaged. Be sure to store headsets and coupling devices in such a way that wires do not get twisted and mangled.

Maintaining the batteries

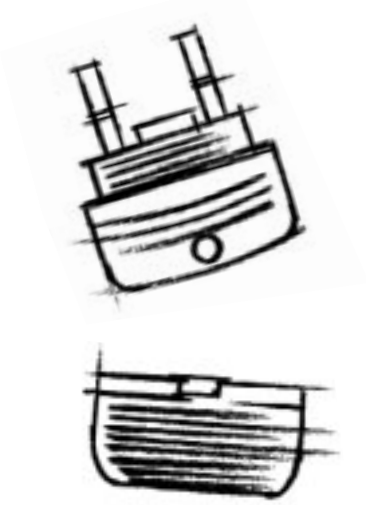
Batteries are the power supply for all receivers and some small portable ALD transmitters. Batteries are a commonly ignored but essential component of a well-functioning Assistive Listening System. They are frequently the source of trouble in the system. Understanding how the batteries work will keep the system functioning smoothly.

• Non-rechargeable Batteries



This type of battery, an alkaline battery, is usually found in household items like flashlights and toys. These batteries are normally not rechargeable and once discharged are useless. It is not safe to recharge standard alkaline batteries. The advantage of non-rechargeable batteries is that they are inexpensive and readily available. However, not all Assistive Listening Devices can use non-rechargeable batteries.

• Rechargeable Batteries



A common rechargeable battery used to power receivers and small portable ALD transmitters are nickel-cadmium batteries (NiCad or Ni-Cd.). These batteries:

- cost more than alkaline batteries but do not need to be replaced as frequently,
- require specialized recharging units,
- have a memory. (Some newer NiCad batteries do not have a memory.)

It is the "memory" that is least understood and often misused. To get the most out of a receiver or transmitter that is powered by this type of battery, it is important to understand how the memory in the battery works.

For example: If the battery is discharged so that only 25% of its charge is left and then it is charged back to 100%, when it is used next it will only discharge to that 25% level. The battery remembers to what level it was previously discharged. The result, in this case, is that your battery is only 75% as effective as it was when first bought. This cycle keeps continuing each time the battery is discharged until you may have a battery that you think is fully recharged yet is only minimally recharged. The duration of time the receiver (or small transmitter) can be used depends on carefully monitoring the discharge-recharge cycle.

Getting the Most from NiCAD Rechargeable Batteries

1. Discharge the battery completely before recharging it. To discharge the battery completely, leave it in the unit (receiver or transmitter) with the unit "on" until the unit is dead (12 to 24 hours is more than enough).
2. Once the battery is completely discharged, turn the unit off and remove the battery. Plug the battery into the recharging unit and recharge it for 14 to 24 hours. Some devices are designed so that the entire receiver or transmitter is plugged into the recharging unit without removing the battery. Always recharge the battery at least 14 hours so that it will be completely recharged. Never recharge it for longer than 24 hours because it may cause damage to the battery.
3. Heat may damage the batteries; avoid leaving them in direct sunlight or very hot spaces.
4. Older batteries may begin to corrode. Throw these away as the corrosion will damage the receiver and the chargers.

Staff Training

Training staff is an essential part of offering ALDs. Technical staff must ensure that the system is turned on and working for every performance or event. Ushers and front-of-house staff must know that the theater has ALDs, where the equipment is, how to operate it, what to do if something is not working, and how to clean and store it properly so that it does not get damaged. In addition, be sure the distribution location for the equipment is clearly identified with signs.

All front-of-house staff, volunteers or staff who deal directly with the public and patrons should receive training. Everyone needs to know that the theater has ALD's, what type of system (FM or Infrared) is installed and where the patron can get a receiver. Staff or volunteers who will be responsible for distributing the receivers to the patrons must get more intensive training. They need to

know how the system works, what receivers and coupling devices will work best for each patron, and how to explain the equipment to the patron. They should also get an introduction to deafness and issues for people who are hard of hearing, as well as training on basic courtesy and disability etiquette such as:

- Get the person's attention. Wave your hand, tap their shoulder, or flash the lights.
- Speak clearly and slowly, but don't exaggerate or shout. Keep sentences short.
- Be flexible with language. If the person didn't understand, rephrase the statement using simpler words. Don't keep repeating; try writing it down.
- Provide a clear view of your face and keep the light source on it. Don't hide your mouth with your hands, turn your head away or down, or turn your back.
- Be a lively speaker. Use facial expressions that match your tone of voice, and use gestures and body movement to communicate. *Show* is better than *tell*.*

** This list is compiled from several sources.*

Distribution System

A simple but effective distribution system is another essential element to providing ALDs to patrons who are deaf or hard of hearing.

- Start with where the ALDs will be kept and who will distribute them. Is it the staff at the box office window? Your volunteers from a designated table or counter in the lobby? Your ushers or house managers inside the theater? Pick a location for distribution that is convenient for the patron and that is clearly designated with a sign stating that ALDs are available.
- Make a decision about whether or not to collect identification or some other collateral from the patron when handing out the receivers. The decision on whether to collect ID as collateral to ensure the return of the receiver is up to the individual theater. Theaters may not charge deaf or hard of hearing patrons for using the receivers. Many theaters require patrons to leave some form of ID (such as a credit card, drivers license, or other ID that has the patrons name embossed on it) in exchange for the receiver. This helps to ensure that the patron will remember to return the receiver at the end of the performance. If the theater elects to collect IDs, every precaution should

be taken to ensure that these are secured and not vulnerable to theft. Some theaters do not want the responsibility of holding IDs and instead collect the patron's name, seating location, and home or business phone number. This can help to locate the patrons later if they forget to return the receiver at the end of the performance. Some theaters collect nothing and just remind patrons to return the receivers.

- Consider developing a system to track the receivers, such as placing discrete numbered labels or some other identifying marker on each receiver. The labels will enable distributors to identify which receiver is given to which patron. This will greatly simplify the process of locating equipment should it go missing and can also serve as a means to track technical problems, maintenance, and repairs.
- Write up simple instructions for ushers, staff, and/or volunteers who are responsible for distributing Assistive Listening Receivers.

Sample Instructions for Distributing ALDs

1. Be sure the assistive listening system is turned on in the theater.
2. Check the receivers to ensure that they are working before being handed out. (The sound system in the theater must be turned on to be able to check for working receivers.)

   FM System: Plug a headset into the receiver and turn it on. (All-in-one receivers do not require a headset.) Listen for the sound of "white noise." This is a sound in the background similar to what you hear if your radio is not tuned to a station. If there is sound or pre-show music playing in the auditorium, you will hear it through the device.

   Infrared System: Go into the theater where the system is installed. Plug a headset into the receiver and turn it on. (All-in-one receivers do not require a headset.) Listen for the sound of "white noise." This is a sound in the background similar to what you hear if your radio is not tuned to a station. If there is sound or pre-show music playing in the auditorium, you will hear it through the device.

Common Problems

If there is no white noise and/or pre-show music, check for the following:

- Jack is not plugged firmly into the receiver; push the jack in until it clicks. (Skip this step for all-in-one receivers that do not have a separate headset.)
- Volume is too low; turn up the volume on the receiver.
- Battery is loose; push the battery in firmly or replace the battery.
- Battery is dead; replace the battery.
- Headset or receiver is defective; try a different headset or receiver.
- After trying all of the above, and if all of the receivers seem to be dead, check again to see that the system has been turned on by the stage or sound crew.

Note: It is possible to purchase a small infrared emitter or FM transmitter on the same frequency as the emitters and transmitter in the theater. Keep the small transmitter or emitter with the receivers and use it to test the receivers so that you don't have to run in and out of the theater to see if the receiver is working.

3. Hand the receivers out to the patrons.

Ask them what kind of headset or adapter they prefer.

- **Monaural headset -** a headset with one earbud. It covers only one ear.
- **Binaural headset -** a headset with two earbuds. It covers both ears.
- **Induction neckloop or silhouette -** used only by a person who has a hearing aid with a T-switch (a telecoil switch - some people will call it a telephone switch). The neckloop or silhouette works by transmitting directly to the individual's hearing aid
  - The neckloop plugs into the receiver and hangs around the patron's neck. The silhouette goes behind the patron's hearing aid.
  - When the T-switch of the patrons hearing aid is "on," the loop transmits the sound directly to the hearing aid.
  - Testing the neckloop or silhouette to ensure it is working requires a hearing aid with a T-switch. It is best to ask the patron to try it before the show starts and to let you know if it is not working.

- **Cochlear Implant Adapter -** There is a patch cord that can be used to connect the receiver to a patron's cochlear processor. Some people may have their own patch cords.

4. Explain how the receiver works:
- The headset jack must be plugged all the way into the receiver.
- The volume switch must be turned on and can be set at whatever level the patron finds comfortable.
- If it is a multi-channel receiver, be sure it is set to the correct channel.
- The receivers can be temperamental. Jiggling, squeezing, and/or dropping them can cause the connections to become loose and distort reception.
- If it is an FM receiver: the wire leading from the receiver to the earpiece acts as the antenna; the straighter and less tangled this is, the better the reception.
- If it is an Infrared receiver: the glass "eye" must be facing the stage; not turned around towards the patrons chest, or blocked by clothing, hair, or hands.

5. At intermission, be sure that staff is available at the distribution area to assist patrons who have had problems with their receivers during the performance. Exchange the faulty receiver for a different one that has been carefully checked. Make a note and tell appropriate staff what was reported to be wrong with the receiver.

6. At the end of the performance, return to the distribution area to collect the receivers. Ask them if they had any problems with the receiver. If they did, note down the specific problem. For example: "The patron wasn't getting sound out of the left earpiece," or "Patron complained of static." Be sure this information gets to the appropriate staff so that that receiver can be checked, repaired, or replaced. Having forms available to make a full report on the faulty receivers is very useful.

Part V

Directory of Manufacturers and Vendors

The following is a list of manufacturers and/or suppliers who carry assistive listening devices that are used in facilities and venues like classrooms or theaters.

Disclaimer: This is not a comprehensive list nor does inclusion on this list imply any kind of endorsement of the company or product.

Call the manufacturer or supplier and find a vendor in your area who can sell, install, and help you maintain your equipment. Always get a knowledgeable sound engineer or someone familiar with ALDs to consult or help install the equipment. Poor or improper installation of the equipment can render it useless. Some manufacturers will sell directly to the public and some will not.

(M=Manufacturer, S=Supplier)

All Systems

American Loop Systems (S)
29 Silver Hill Road
Suite 100
Milford, MA 01757
(800) GET-LOOP
(800) 955-7204 TTY

Audio Enhancement (S)
14241 South Redwood Road
P.O. Box 2000
Bluffdale, UT 84065
(800) 383-9362
www.audioenhancement.com

Cardinal Sound & Communication (S)
2317 Kansas Avenue
Silver Spring, MD 20910
(800) 964-3496
info@cardinalsound.us
www.cardinalproaudio.com

Centrum Sound (S)
572 LaConner Drive
Sunnyvale, CA 94078
(408) 736-6500
info@centrumsound.com
www.centrumsound.com

HARC Mercantile, Ltd. (S)
1111 West Centre Avenue
Portage, MI 49024
(800) 445-9968 Voice/TTY
www.harcmercantile.com

Hear More (S)
42 Executive Blvd.
Farmingdale, NY 11735
(800) 881-4327 (voice)
(800) 281-3555 (TTY)
www.hearmore.com

HITEC (S)
8160 Madison Avenue
Burr Ridge, IL 60521
(800) 288-8303 voice
(800) 536-8890 TTY
info@hitec.com
www.hitec.com

Phonic Ear, Inc. (M)
3880 Cypress Drive
Petaluma, CA 94954
(800) 227-0735
customerservice@phonicear.com
www.phonicear.com

Potomac Technology (S)
1 Church Street, Suite101
Rockville, MD 20850-4158
(800) 433-2838 voice/TTY
info@potomactech.com
www.potomactech.com

FM and Infrared Systems Only

Listen Technologies Corporation (M)
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Sandy, UT 84070-2515
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info@listentech.com
www.listentech.com

NADY Systems Inc. (M)
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(510) 652-2411
ussales@nady.com
www.nadywireless.com

Sennheiser Electronic Corp. (M)
1 Enterprise Drive
Old Lyme, CT 06371
(877) 736-6434
www.sennheiserusa.com

Williams Sound (M)
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Eden Prairie, MN 55344-3459
(800) 328-6190
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www.williamssound.com

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(800) 665-2537
(604) 270-6308 Fax
www.alds.com

Audex (M)
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Longview, TX 75604
(903) 295-8244
(800) 237-0716
(800) 283-3974 Fax
www.audex.com

Lightspeed Technologies (M)
15812 SW Upper Boones Ferry Road
Lake Oswego, OR 97035
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(503) 684-3197 Fax
www.lightspeed-tek.com

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Piscataway, NJ 08855
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(732) 562-6696 Fax
www.siemens-hearing.com

Ultra*Stereo Labs, Inc. (M)
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San Luis Obispo, CA 93401
(805) 549-0161
(805) 549-0166 Fax
www.uslinc.com

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www.telex.com

Comtek (M)
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Salt Lake City, UT 84115
(800) 496-3463
sales@comtek.com
www.comtek.com

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Toledo, OH 43606
(800) 224-9295 Voice
(419) 292-2169 Fax
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