



MEDIA VISION

The Conference Company

ADA Compliance for FM Assistive Listening





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[Click Here to See the Video](#)

Please be aware: Not all states have the same standards for Assistive Listening Compliance. Some states such as California follow building code to outline their Assistive Listening Requirements. For example, the American's with Disabilities Act generally considers Houses of Worship to be exempt, however both California and Texas have specific requirements for Assistive Listening Devices in Houses of Worship. For full compliance we recommend checking with your local authority for any additional ADA requirements.

Introduction



Technological advancements over time have made Assistive Listening Technology better than ever and gradually improved the lives of those living with disabilities. The Americans with Disabilities Act has put forth requirements to ensure that such technology is readily available to assist with the needs of those that are disabled. By meeting ADA requirements for compliance you are ensuring that your business is accessible to a community that represents 20% of the United States populations which is about 48 million Americans.

There are many factors to consider when it comes to ensuring that your facility meets the ADA compliance requirements. With the 1990 ADA standards being 67 pages long and the 2010 ADA standards being 279 pages long, it can become a daunting task to attempt to understand exactly what is needed in order to make sure your facility is ADA compliant.

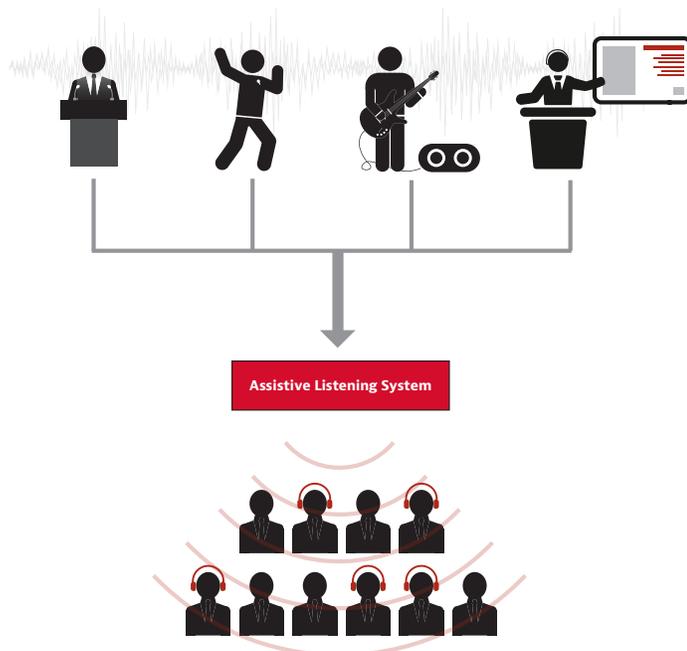
With the most recent updates to the ADA Standards, these requirements became significantly more specific with regards to the quantity of devices available for use and the technical components of these devices.

Within this white paper on ADA Compliance, we will be focusing on ADA Requirements for Assistive Listening and FM Assistive Listening technology. Our goal is to provide you with valuable information on The Americans with Disabilities Act and how it applies to you and your venue. We hope this document helps you to have a better understanding of how ADA Assistive Listening compliance works and its impact on your facility.

*“Blindness separates us from things
but deafness separates us from people.”*
-Helen Keller

What is the Americans with Disabilities Act (ADA)?

The Americans with Disabilities Act (ADA) was signed into law on July 26, 1990. The ADA is one of America's most comprehensive pieces of civil rights legislation that prohibits discrimination and guarantees that people with disabilities have the same opportunities as everyone else to participate in the mainstream of American life - to enjoy employment opportunities, to purchase goods and services, and to participate in State and local government programs and services. The Department of Justice published revised regulations for Titles II (State and Local Governments) and III (Public Accommodations and Commercial Facilities) of the Americans with Disabilities Act of 1990 "ADA" in the Federal Register on September 15, 2010. These regulations adopted revised, enforceable accessibility standards called the 2010 ADA Standards for Accessible Design "2010 Standards" or "Standards". The 2010 Standards set minimum requirements - both scoping and technical - for newly designed and constructed or altered State and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities. Adoption of the 2010 Standards also establishes a revised reference point for Title II entities that choose to make structural changes to existing facilities to meet their program accessibility requirements; and it establishes a similar reference for Title III entities undertaking readily achievable barrier removal.



Standards for Compliance

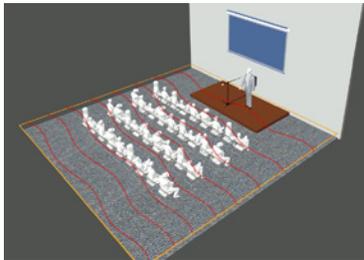
The 1990 Standards for ADA Compliance required assembly areas, where audible communication is integral to the use of the space, to provide an Assistive Listening System if they have an audio amplification system or an occupant load of 50 or more people and have fixed seating. This was changed in the 2010 Standards to require Assistive Listening Systems in spaces where communication is integral to the space and audio amplification is provided in courtrooms (Some courtrooms were exempt with the previous standards). This rule became effective on March 15, 2011. On March 15, 2012, compliance with the 2010 Standards became required for new construction, alterations, and barrier removal. In the period between September 15, 2010 and March 15, 2012, covered entities were able to choose between the 1991 Standards and the 2010 Standards. Covered entities that should have complied with the 1991 Standards during any new construction or alteration of facilities or elements, but had not done so by March 15, 2012, must comply with the 2010 Standards.

The 2010 Standards for ADA Compliance include a general "safe harbor" under which elements in covered facilities that were built or altered in compliance with the 1991 Standards would not be required to be brought into compliance with the 2010 Standards until the elements were subject to a planned alteration.

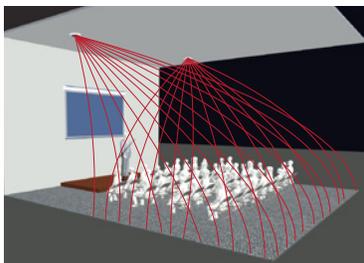
The Americans with Disabilities Act defines Assistive Listening System (ALS) as an amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical space between a sound source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment.

Assistive Listening System Options

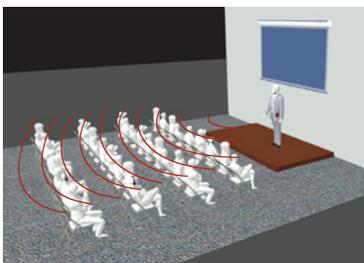
There are three major types of Assistive Listening Systems. Each has its advantages and disadvantages but for the purposes of this White Paper we will focus on the most commonly used and inexpensive of the three, the FM Assistive Listening System.



An **inductive loop** system is a wire that circles a room and is connected to a sound system. The loop transmits the sound electromagnetically. The electromagnetic signal is then picked up by the telecoil in the hearing aid or cochlear implant. The installation of an inductive loop system can be quite costly.



An **Infrared** system is a line of sight technology. It works by transmitting sounds via light waves to users wearing receivers. The receiver must be in the transmitter's line of sight to function properly. This limits where visitors with receivers can be located, but it also prevents spillover of sound into other areas. Sunlight and bright incandescent light can interfere with the transmitter signal for some systems, so placement for an IR system is crucial for its effectiveness.



FM frequency assistive listening systems are the most popular type of Assistive Listening System in the US market. This is largely due to their relative low cost in comparison to other systems, easy installation, and coverage capabilities. The system works similar to FM Radios where the audio signal is broadcast from the transmitter to listeners wearing FM receivers.

The FCC has allocated the frequencies within the 72-76 and 216-217 MHz band as the designated frequencies to be used for FM Assistive Listening.

ADA Compliance Calculator – Assistive Listening

The 1990 Standards for ADA Compliance required receivers to be provided for at least four percent (4%) of the total number of fixed seats for venues with 50 or more seats. This was changed in the 2010 Standards by revising the percentage of receivers required based on the seating capacity of the facility. The required percentage declines as the size of the facility increases. The changes also require at least twenty-five percent (25%), but no fewer than two, of the receivers to be hearing-aid compatible.

Receivers that meet the technical requirements must be provided for Assistive Listening Systems in each assembly area in accordance with the Device Requirement Chart below.

Device Requirement Chart Calculations

Seating Capacity of Assembly Area	Minimum Receivers Required	Minimum Neckloops
50	2	2
51-200	2+	2
	1 per 25 seats over 50 seats	
201-500	2+	25% of receivers
	1 per 25 seats over 50 seats	
501-1000	20+	25% of receivers
	1 per 33 seats over 500 seats	
1001-2000	35+	25% of receivers
	1 per 50 seats over 10000 seats	
2001+	55+	25% of receivers
	1 per 100 seats over 2000 seats	

Download compliance calculator for exact, automatic calculations: <http://media-vision.com/en/products/assistive-listening>

EXCEPTIONS:

1. Other than in courtrooms, Assistive Listening Systems shall not be required where audio amplification is not provided.
2. Where a building contains more than one assembly area and the assembly areas required to provide Assistive Listening Systems are under one management, the total number of required receivers shall be permitted to be calculated according to the total number of seats in the assembly areas in the building provided that all receivers are usable with all systems.
3. Where all seats in an assembly area are served by an Induction Loop Assistive Listening System, the minimum number of receivers required to be hearing aid compatible are not required to be provided.

Required Devices: FM Receiver and Neckloop (Compatible with telecoil-equipped hearing aids)

*"The ear is the only true writer
and the only true reader."*

-Robert Frost

ADA Standards for Compliance – Technical Requirements

The 1990 Standards did not contain specific technical requirements for Assistive Listening Systems. The 2010 Standards changed this to require Assistive Listening Systems to have standard mono jacks and require hearing-aid compatible receivers to have neckloops to interface with telecoils in hearing aids. The 2010 Standards also specify sound pressure level, signal-to-noise ratio, and peak clipping level.

The technical standards for Assistive Listening Systems describe minimum performance levels for volume, interference, and distortion. Sound pressure levels (SPL), expressed in decibels, measure output sound volume. Signal-to-noise ratio (SNR or S/N), also expressed in decibels, represents the relationship between the loudness of a desired sound (the signal) and the background noise in a space or piece of equipment. The higher the SNR, the more intelligible the signal. The peak clipping level limits the distortion in signal output produced when high-volume sound waves are manipulated to serve Assistive Listening Devices.

Receiver Jacks

Receivers required for use with an assistive listening system shall include a 1/8 inch (3.5 mm) standard mono jack

Receiver Hearing-Aid Compatibility

Receivers required to be hearing-aid compatible shall interface with telecoils in hearing aids through the provision of neckloops

Sound Pressure Level

Assistive listening systems shall be capable of providing a sound pressure level of 110 dB minimum and 118 dB maximum with a dynamic range on the volume control of 50 dB

Signal-to-Noise Ratio

The signal-to-noise ratio for internally generated noise in Assistive Listening Systems shall be 18 dB minimum

Peak Clipping Level

Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech

ADA Standards for Compliance – Signage Requirements

Assistive listening systems must be identified by the International Symbol of Access for Hearing Loss.

EXCEPTION:

Where ticket offices or windows are provided, signs shall not be required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of Assistive Listening Systems.



Should you comply? Absolutely, and here's why:

1. Social Responsibility

One in five Americans has hearing loss making it the largest disability in America. When you are compliant with the ADA Assistive Listening requirements, you help to create a positive experience for your patrons.

2. It's the Law and carries stiff penalties for non-compliance

On March 28, 2014, the Department of Justice issued a Final Rule that adjusts for inflation the civil monetary penalties assessed or enforced by the Civil Rights Division, including civil penalties available under title III of the Americans with Disabilities Act of 1990 (ADA). For the ADA, this adjustment increases the maximum civil penalty for a first violation under title III from \$55,000 to \$75,000; for a subsequent violation the new maximum is \$150,000.

3. Return on Investment

When your place of business is ADA Compliant, it fosters an environment that is welcoming and encourages those with disabilities to return. Studies show that once people with disabilities find a business where they can shop or get services in an accessible manner, they become repeat customers.

4. The Future

Approximately 71.5 million baby boomers will be over age 65 by the year 2030 and will be demanding products, services, and environments that meet their age-related physical needs. These are your future customers.

5. Tax Incentives

By complying with the ADA, some businesses may qualify for a Tax Reduction. Under Internal Revenue Code, Section 190, businesses can take a business expense deduction of up to \$15,000 per year for costs of removing barriers in facilities or vehicles.

Small businesses with 30 or fewer employees or total revenue of 1 million or less can use the disabled Access Credit (Internal Revenue Code, Section 44). Eligible small businesses may take a credit of up to \$5,000 (half of eligible expenses up to \$10,250, with no credit for the first \$250) to offset their cost for access. For more information about Disabled Access Credit, visit www.irs.gov and see form 8826.

Resources

Guidance on the 2010 ADA Standards for Accessible Design: http://www.ada.gov/regs2010/2010ADASTandards/Guidance_2010ADASTandards.pdf

ADA Factsheet: www.ada.gov/regs2010/factsheets/title3_factsheet.html

ADA Tax Credit: <http://www.ada.gov/taxcred.htm>

ADA Small Business: <http://www.ada.gov/regs2010/smallbusiness/smallbusprimer2010.htm>

Comparison Of Large Area Assistive Listening Systems: www.hearingloss.org/sites/default/files/docs/Comparison_of_LargeAreaALS.pdf

United States Census Bureau: <https://www.census.gov/newsroom/releases/archives/miscellaneous/cb12-134.html>

Hearing Loss Association of America: <http://www.hearingloss.org>

National Institute on Deafness and Other Communication Disorders: <https://www.nidcd.nih.gov/health/statistics/quick-statistics-hearing>

This document is for informational purposes only and does not provide legal advice. The information contained in this document may or may not reflect the most up to date current legal developments or your specific situation. For legal advice or questions, please speak with an attorney.



White Paper: ADA Compliance for FM Assistive Listening

MEDIA VISION The Conference Company

Media Vision is a leading provider of professional audio solutions that improve intelligibility and participation for effective meetings. Our solution range includes wired, wireless and multimedia conference microphone systems, simultaneous interpreting, assistive listening, and a multichannel streaming and recording solution. Supported by a dedicated product engineering team, delivering local support, Media Vision works with system integrators and consultants to design the best system configuration and ensure impeccable project delivery.

www.media-vision.com | info@media-vision.com

USA (San Francisco)
1078 60th Street
Oakland, CA 94608
Tel: +1.415.391.9090

USA (Washington DC)
7008 Virginia Manor Road
Beltsville, MD 20705
Tel: +1.415.391.9090

USA (New York)
462 7th Avenue, 9th Floor
New York, NY 10018
Tel: +1.415.391.9090

Canada (Toronto)
Tel.: +1.905.304.1839
Mexico
Tel.: +1.415.391.9090

San Francisco | New York | Washington DC | Paris | Brussels | London | Copenhagen | Geneva | Toronto