



2010 ADA Standards for Accessible Design

219 Assistive Listening Systems

219.1 General. Assistive listening systems shall be provided in accordance with 219 and shall comply with 706.

219.2 Required Systems. In each assembly area where audible communication is integral to the use of the space, an assistive listening system shall be provided.

EXCEPTION: Other than in courtrooms, assistive listening systems shall not be required where audio amplification is not provided.

219.3 Receivers. Receivers complying with 706.2 shall be provided for assistive listening systems in each assembly area in accordance with Table 219.3. **Twenty-five percent minimum of receivers provided, but no fewer than two, shall be hearing-aid compatible in accordance with 706.3.**

EXCEPTIONS:

1. 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.
2. **Where all seats in an assembly area are served by an induction loop assistive listening system, the minimum number of receivers required by Table 219.3 to be hearing-aid compatible shall not be required to be provided.**

Capacity of Seating in Assembly Area	Minimum Number of Required Receivers	Minimum Number of Required Receivers Required to be Hearing-aid Compatible
50 or less	2	2
51 to 200	2, plus 1 per 25 seats over 50 seats ¹	2
201 to 500	2, plus 1 per 25 seats over 50 seats <i>(20 for 500 seats)</i>	1 per 4 receivers <i>(5 must be neck loops for 500 seats)</i>
501 to 1000	20, plus 1 per 33 seats over 500 seats	1 per 4 receivers
1001 to 2000	35, plus 1 per 50 seats over 1000 seats	1 per 4 receivers
2001 and over	55 plus 1 per 100 seats over 2000 seats	1 per 4 receivers

706 Assistive Listening Systems

706.1 General. Assistive listening systems required in assembly areas shall comply with 706.

Advisory 706.1 General. Assistive listening systems are generally categorized by their mode of transmission. There are hard-wired systems and three types of wireless systems: induction loop, infrared, and FM radio transmission. Each has different advantages and disadvantages that can help (Continued on next page)

determine which system is best for a given application. For example, an FM system may be better than an infrared system in some open-air assemblies since infrared signals are less effective in sunlight. On the other hand, an infrared system is typically a better choice than an FM system where confidential transmission is important because it will be contained within a given space.

The technical standards for assistive listening systems describe minimum performance levels for volume, interference, and distortion. Sound pressure levels (SPL), expressed in decibels, measure 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.

Selecting or specifying an effective assistive listening system for a large or complex venue requires assistance from a professional sound engineer. The Access Board has published technical assistance on assistive listening devices and systems.

706.2 Receiver Jacks. Receivers required for use with an assistive listening system shall include a 1/8 inch (3.2 mm) standard mono jack.

706.3 Receiver Hearing-Aid Compatibility. Receivers required to be hearing-aid compatible shall interface with telecoils in hearing aids through the provision of neckloops.

Advisory 706.3 Receiver Hearing-Aid Compatibility. Neckloops and headsets that can be worn as neckloops are compatible with hearing aids. Receivers that are not compatible include earbuds, which may require removal of hearing aids, earphones, and headsets that must be worn over the ear, which can create disruptive interference in the transmission and can be uncomfortable for people wearing hearing aids.

706.4 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.

706.5 Signal-to-Noise Ratio. The signal-to-noise ratio for internally generated noise in assistive listening systems shall be 18 dB minimum.

706.6 Peak Clipping Level. Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.

Signage.

4.30.1* General. Signage required to be accessible by 4.1 shall comply with the applicable provisions of 4.30. Appendix Note

4.30.2* Character Proportion. Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10. Appendix Note

4.30.3 Character Height. Characters and numbers on signs shall be sized according to the viewing distance from which they are to be read. The minimum height is measured using an upper case X. Lower case characters are permitted.

Height Above Finished Floor Minimum Character Height

Suspended or Projected Overhead in compliance with 4.4.2 3 in (75 mm) minimum

4.30.4* Raised and Brailled Characters and Pictorial Symbol Signs (Pictograms). Letters and numerals shall be raised 1/32 in (0.8 mm) minimum, upper case, sans serif or simple serif type and shall be accompanied with Grade 2 Braille. Raised characters shall be at least 5/8 in (16 mm) high, but no higher than 2 in (50 mm). Pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram. The border dimension of the pictogram shall be 6 in (152 mm) minimum in height. Appendix Note

4.30.5* Finish and Contrast. The characters and background of signs shall be eggshell, matte, or other non-glare finish. Characters and symbols shall contrast with their background -- either light characters on a dark background or dark characters on a light background. Appendix Note

4.30.6 Mounting Location and Height. Where permanent identification is provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door. Where there is no wall space to the latch side of the door, including at double leaf doors, signs shall be placed on the nearest adjacent wall. Mounting height shall be 60 in (1525 mm) above the finish floor to the centerline of the sign. Mounting location for such signage shall be so that a person may approach within 3 in (76 mm) of signage without encountering protruding objects or standing within the swing of a door.

4.30.7* Symbols of Accessibility.

(1) Facilities and elements required to be identified as accessible by 4.1 shall use the international symbol of accessibility. The symbol shall be displayed as shown in Fig. 43(a) and (b).

(2) Volume Control Telephones. Telephones required to have a volume control by 4.1.3(17)(b) shall be identified by a sign containing a depiction of a telephone handset with radiating sound waves.

(3) Text Telephones (TTYs). Text telephones (TTYs) required by 4.1.3(17)(c) shall be identified by the international TTY symbol (Fig 43(c)). In addition, if a facility has a public text telephone (TTY), directional signage indicating the location of the nearest text telephone (TTY) shall be placed adjacent to all banks of telephones which do not contain a text telephone (TTY). Such directional signage shall include the international TTY symbol. If a facility has no banks of telephones, the directional signage shall be provided at the entrance (e.g., in a building directory).

(4) Assistive Listening Systems. In assembly areas where permanently installed assistive listening systems are required by 4.1.3(19)(b) the availability of such systems shall be identified with signage that includes the international symbol of access for hearing loss (Fig 43(d)). Appendix Note

216.10 Assistive Listening Systems

Each assembly area required by 219 to provide assistive listening systems shall provide signs informing patrons of the availability of the assistive listening system. Assistive listening signs shall comply with 703.5 and shall include the International Symbol of Access for Hearing Loss complying with 703.7.2.4.

Hearing Loss Association of America

The Nation's Voice for People with Hearing Loss

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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. Each assembly area required by 219 to provide assistive listening systems shall provide signs informing patrons of the availability of the assistive listening system. Assistive listening signs shall comply with 703.5 and shall include the International Symbol of Access for Hearing Loss complying with 703.7.2.4.

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.

Assive Listening Systems Signage

703.7.2.4 Assistive Listening Systems. Assistive listening systems shall be identified by the International Symbol of Access for Hearing Loss complying with Figure 703.7.2.4.



Figure 703.7.2.4 International Symbol of Access for Hearing Loss

HLAA NOTE: It has become common practice for the symbol to be modified with the addition of a “T” to indicate the assistive listening system is a hearing loop.

The compliance date for the 2010 Standards for new construction and alterations is determined by:

- the date the last application for a building permit or permit extension is certified to be complete by a State, county, or local government;
- the date the last application for a building permit or permit extension is received by a State, county, or local government, where the government does not certify the completion of applications; or
- the start of physical construction or alteration, if no permit is required.

If that date is on or after March 15, 2012, then new construction and alterations must comply with the 2010 Standards.