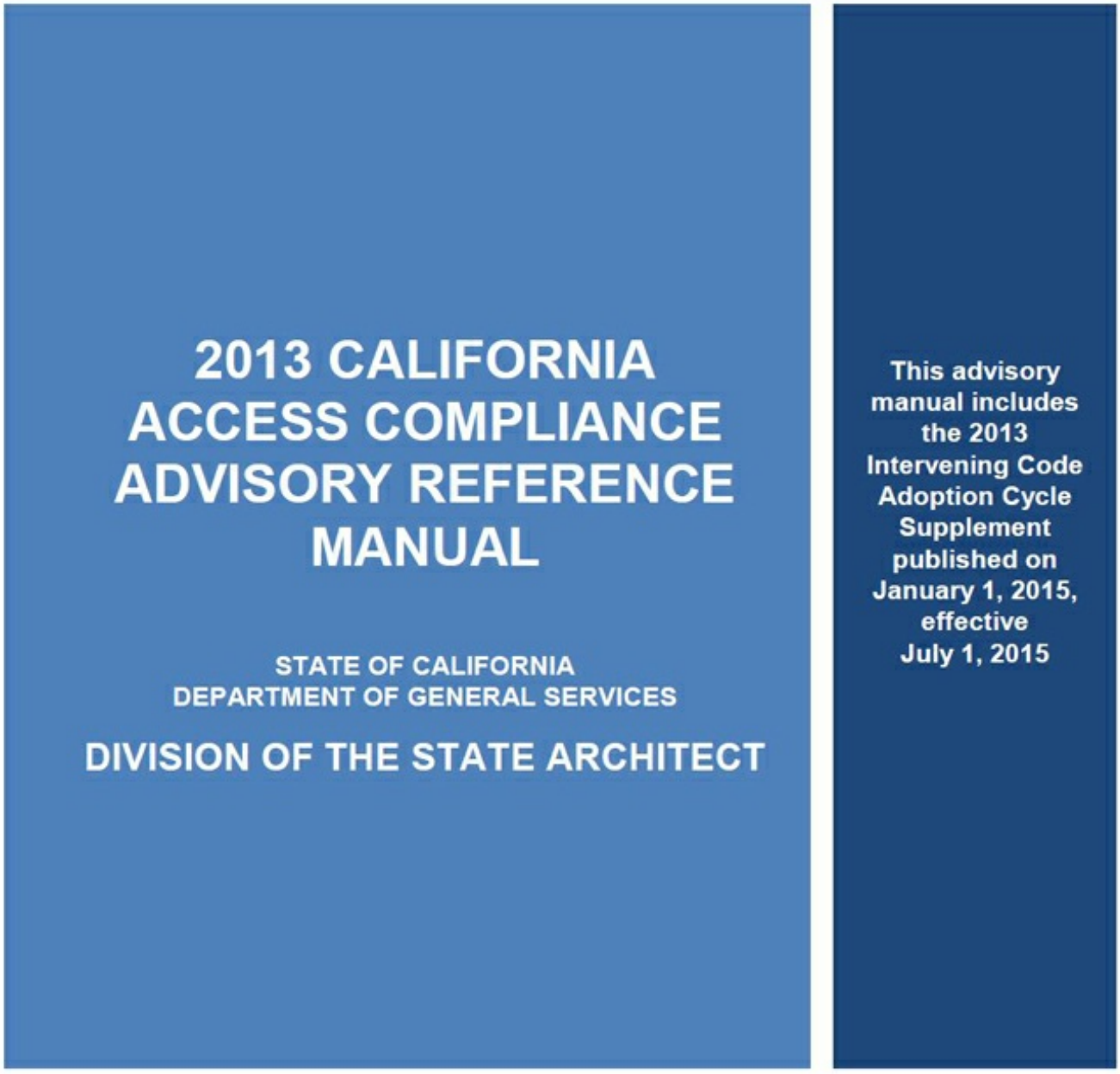

Excerpted from: Title 24, Part 2 Effective date: July 1, 2015

https://www.documents.dgs.ca.gov/dsa/pubs/2013cbc_advisory_manual.pdf

11B-216 Signs

***11B*-216.10 Assistive listening systems.** Each assembly area required by *Section 11B*-219 to provide assistive listening systems shall provide signs informing patrons of the availability of the assistive listening system. *The sign shall include wording that states "Assistive-Listening System Available" and shall be posted in a prominent place at or near the assembly area entrance.* Assistive listening signs shall comply with *Section 11B*-703.5 and shall include the International Symbol of Access for Hearing Loss complying with *Section 11B*-703.7.2.4.

Advisory 11B-216.10 Assistive listening systems. The term "prominent place" means a place that arriving persons would easily notice. It is helpful, though not required, to identify the location or person to contact for obtaining the system on the sign. Note that a tactile sign is not required by this section.

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.

11B-219 Assistive listening systems

***11B*-219.1 General.** Assistive listening systems shall be provided in accordance with *Section 11B*-219 and shall comply with *Section 11B*-706.

***11B*-219.2 Required systems.** *An assistive listening system shall be provided in assembly areas, including conference and meeting rooms.*

Exception: *This section does not apply to systems used exclusively for paging, background music, or a combination of these two uses.*

***11B*-219.3 Receivers.** *The minimum number of receivers to be provided shall be equal to 4 percent of the total number of seats, but in no case less than two.* Twenty-five percent minimum of receivers provided, but no fewer than two, shall be hearing-aid compatible in accordance with *Section 11B*-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 *Section 11B*-219.3 to be hearing-aid compatible shall not be required to be provided.

11B-219.4 Location*. If the assistive-listening system provided is limited to specific areas or seats, then such areas or seats shall be within a 50-foot (15240 mm) viewing distance of the stage or playing area and shall have a complete view of the stage or playing area.*

Advisory 11B-219.4 Location. Sitting in close proximity to the performing area benefits persons with hearing impairments by allowing them to lip-read and better see the facial expressions of performers.

11B-219.5 Permanent and portable systems. *Permanently installed assistive-listening systems are required in areas if (1) they accommodate at least 50 persons or if they have audio-amplification systems, and (2) they have fixed seating. If portable assistive-listening systems are used for conference or meeting rooms, the system may serve more than one room. An adequate number of electrical outlets or other supplementary wiring necessary to support a portable assistive-listening system shall be provided.*

Advisory 11B-219.5 Permanent and portable systems. The California Building Code (CBC) requires permanently installed assistive listening systems in those assembly areas where audible communication is integral to the use of a space (movie theaters, concert and lecture halls, playhouses, meeting rooms, etc.); where fixed seating is provided and where there may be an audio-amplification system. For other assembly areas, such as those without fixed seating, the CBC requires either a permanently installed system or a portable system. If a portable system is provided an adequate number of electrical outlets or other supplementary wiring to support the system is required. While this provision does not necessarily require the addition of electrical outlets, consideration should be given to locating outlets to support dispersion of seating available for individuals using the assistive listening systems.

Assembly Areas
With Room Occupancy Under 50
(where audible communication is integral to the use of the space)

Audio-Amplification System Provided?	Fixed Seating Provided?	Required:
no	n/a	outlets or wiring
yes	no	outlets or wiring
yes	yes	permanent system

Assembly Areas
With Room Occupancy Over 50
(where audible communication is integral to the use of the space)

Fixed Seating Provided?	Required:
yes	permanent system
no	outlets or wiring

11B-706 Assistive listening systems

***11B*-706.1** General. Assistive listening systems required in assembly areas*, conference and meeting rooms* shall comply with *Section 11B*-706.

Advisory 11B-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 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 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 federal Access Board has published technical assistance on assistive listening devices and systems.

***11B*-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.

***11B*-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 11B-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.

***11B*-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.

***11B*-706.5 Signal-to-noise ratio.** The signal-to-noise ratio for internally generated noise in assistive listening systems shall be 18 dB minimum.

***11B*-706.6 Peak clipping level.** Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.