

Welcome to the AccessibilityOnline Webinar Series



A collaborative program between the
ADA National Network and the
US Access Board



The Session is Scheduled to begin at 2:30pm Eastern Time
We will be testing sound quality periodically

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Webinar Features



- **Closed captioning** – click **CC** icon (top of screen) or control-F8 and adjust the captioning screen as needed
- **Customize your view** – choose “View” from the menu bar at the top of the screen and choose the layout you prefer from the dropdown menu.
- **Questions** - type and submit questions in the Chat Area Text box or press control-M and enter text in the Chat Area
- **Emotions/Hand-raising:** Please do not use these features during this session

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Presenters



David Baquis



Rex Pace

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Accessible Communication Elements and Features Session Agenda

- **ADA and ABA Standards
Chapter 7 and Additional**
- **Information and Communications
Technology Access**

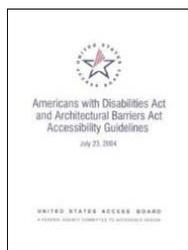
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CHAPTER 7

COMMUNICATION ELEMENTS AND FEATURES

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New ADA and ABA Standards



Based on the Board's ADA-ABA
Guidelines (2004)

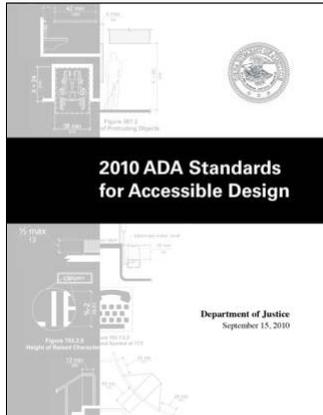


2010 Standards - DOJ includes
several additional requirements/
revisions – see www.ada.gov).

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Current ADA Standards



**2010 ADA Standards
for Accessible Design
– now only standard**

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Auxiliary Aids and Services - Effective Communications



**Regulatory Sections 35.160 (Title II)
and 36.303 (Title III)**

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Architectural Barriers Act

Covers:

- facilities that are designed, constructed, altered, or leased by, or on behalf of the United States.
- facilities receiving certain types of Federal Financial assistance.

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Current ABA Standards



DOD, USPS, and GSA Standards

Similar standards in effect for all federally funded facilities (except housing)



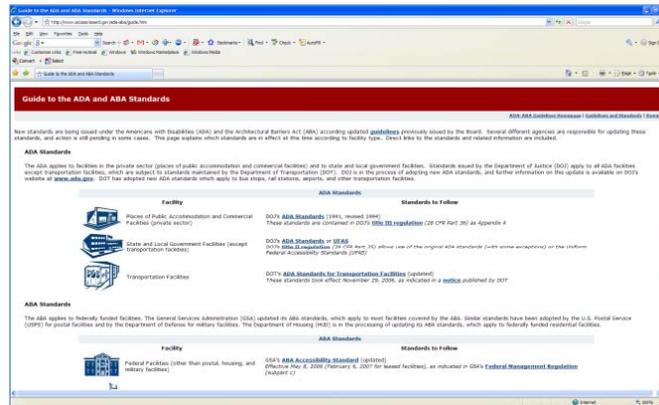
HUD – UFAS still applies (HUD to update standards)

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Online Guidance

www.access-board.gov/ada/



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New vs. Existing

- **New Construction - building standard**
- **Planned Alterations of existing facilities**
- **Requirements for Alterations go to the scope of work**
- **Path of Travel obligations are in addition to scope of work**

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CHAPTER 7

Communication Elements & Features:

- Fire Alarm Systems
- Signs
- Telephones
- Detectable Warnings
- Assistive Listening Systems
- ATMs & Fare Machines
- Two-Way Communication Systems

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Fire Alarm Systems

Where provided, compliance required in:

- Public and Common Use Areas (215.2)
- Employee Work Areas (215.3) – wiring for visual alarms
- Transient Lodging Guest Rooms (215.4)
- Residential Dwelling Units (215.5)
- Alterations Exception (215.2) - compliance required only when system upgraded/ replaced or new one is installed

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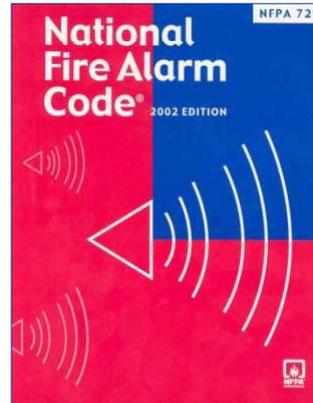
Fire Alarm Systems

NFPA 72 National Fire Alarm Code (1999 or 2002) – referenced standard

National Fire Protection Association (www.nfpa.org)

2010 Standards - sound level of 110 dB max.

Exception for systems in medical care facilities – accordance with industry practice



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Fire Alarm Systems

NFPA 72 covers:

- flash rate & pulse duration
- location - wall & ceiling
- minimum intensity
- larger coverage thru fewer appliances
- many spaces (other than corridors) can be covered by 1 appliance
- synchronization of multiple appliances



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Signs

Scope (216):

- Designations for permanent rooms and spaces, exit doors (216.2)
 - both tactile and visual requirements (703.2 Raised Characters and 703.5 Visual Characters)
- Directional and Informational Signs (216.3)
 - only visual requirements (703.5 Visual Characters)

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Signs

- Exempt (216.1):
 - temporary signs,
 - building menus, directories, addresses,
 - company names/logos,
 - signs in detention/ correctional areas that are not public use



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Signs

Tactile & Visual

“Room 123”

“Restroom”

“Mechanical Room”

“Exit”

“Floor B”

“Ballroom A”

“C. Smith Room”

Visual Only

“Exit →”

“Accounting Department”

“Visitors must sign in”

Exempt

building directory

“Mr. C. Smith, Accountant”

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Signs

- Means of Egress (216.4):
 - Exit Doors – tactile and visual, includes exit discharge
 - Areas of refuge – instructions
 - Directional Signs – visual characters
- Parking (216.5) – Section 502.6:
 - Exceptions where 4 or less spaces and assigned residential parking
- Amusement Rides (216.12) – access/locations

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Signs

identified where not all
are accessible:

- Entrances (216.6)
- Elevators (216.7)
- Toilet and Bathing Rooms (216.8)
- Check-Out Aisles (216.11)
- with aisle identification



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Signs

Identification of communications features:

- TTYs (216.9)
 - Identification Signs – at TTY
 - Directional Signs – at telephone without TTY and on directional signs
- Assistive Listening Systems (216.10)
 - informing of availability
 - at each required assembly area
 - exception where ticket offices or windows



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Tactile Signs

Scoping (interior & exterior):

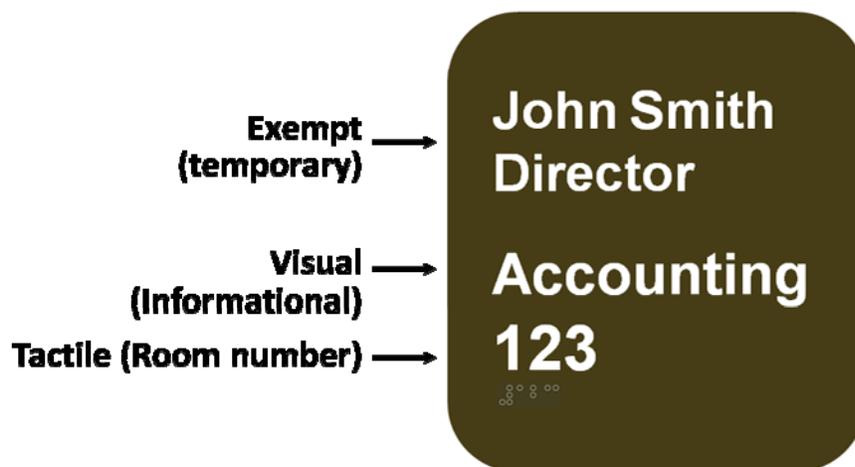
- Restroom labels (at entry)
- Room numbers/ names (not likely to change)
- Floor levels
- Exit access/discharge
- Areas of Rescue Assistance



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Signs

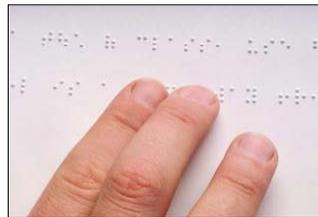


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Tactile Signs

- Raised characters (703.2)
- Grade 2 Braille (703.3)
- Visual access (703.5.1) – finish/contrast
- Pictograms (703.6) – designating room/space

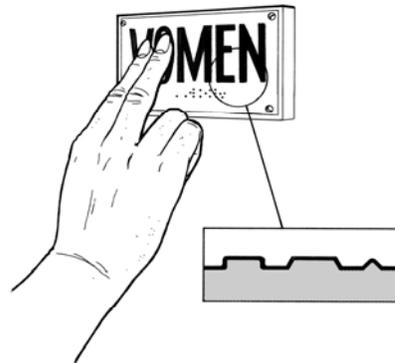


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Raised Characters

- 1/32 minimum depth
- uppercase
- sans serif character
- height and proportion character
- stroke thickness
- character and line spacing

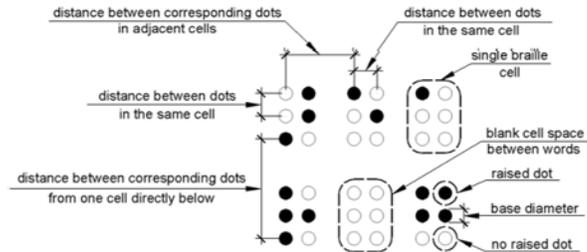
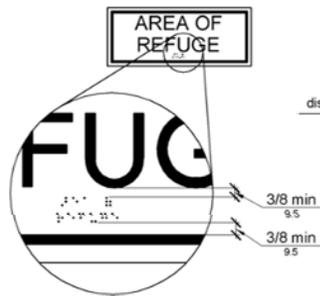


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Braille

**Figure 703.3.2
Position of Braille**

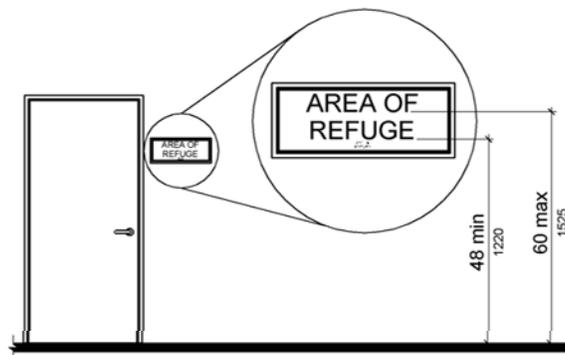


**Figure 703.3.1
Braille Measurement**

Braille Requirements (703.3)

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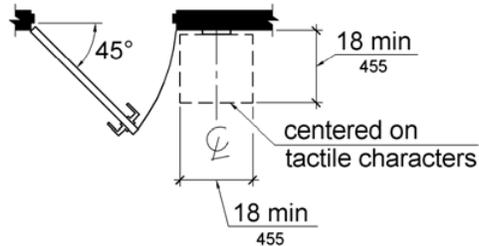
Tactile Signs



**Figure 703.4.1
Height of Tactile Characters Above
Finish Floor or Ground**

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Tactile Signs



Location (703.4.2):

- placement at doors
- push side exception for doors with closer and no hold open devices

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Visual Signs (703.5)

- “conventional form”
- character proportion & spacing
- character height based on viewing distance
- location (40” min. height)
- stroke thickness
- line spacing
- finish & contrast



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Character Style

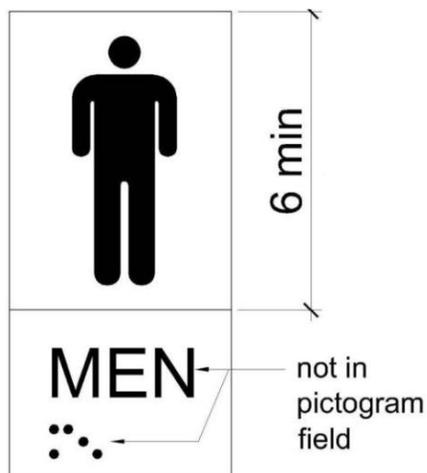
New standards specify “conventional form”.
Prohibited are: Italic, Oblique, Script, highly decorative, or other unusual forms.

Italic *Oblique* *script*
highly decorative
or other *unusual forms*

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Pictograms



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Symbols of Accessibility



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Telephones

Wheelchair Accessible Telephones (217.2) (at least 1 per floor/level, bank, exterior site)

Table 217.2 Wheelchair Accessible Telephones

Number of Telephones Provided on a Floor, Level, or Exterior Site	Minimum Number of Required Wheelchair Accessible Telephones
1 or more single units	1 per floor, level, and exterior <i>site</i>
1 bank	1 per floor, level, and exterior <i>site</i>
2 or more banks	1 per bank

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Telephones

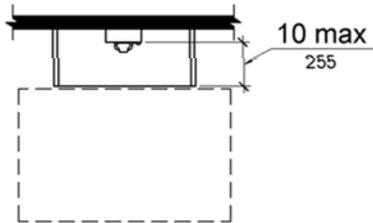


Figure 704.2.1.1
Parallel Approach to Telephone

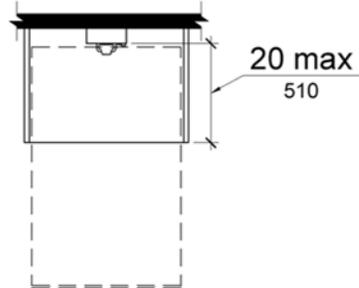


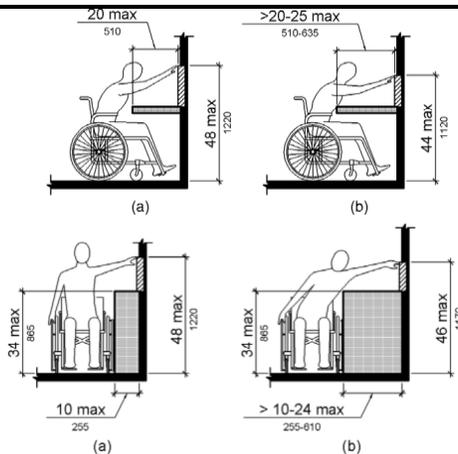
Figure 704.2.1.2
Forward Approach to Telephone

704.2.1 Clear Floor or Ground Space

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Telephones

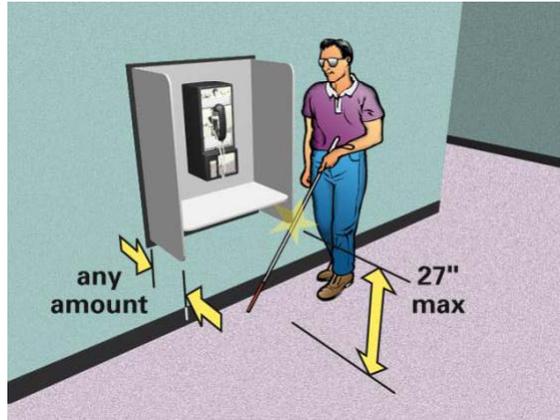


Operable Parts - Chapter 3 Requirements

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Telephones



307 Protruding Objects

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Telephones – Volume Controls

- volume controls on all public phones (217.3)
- volume control (704.3) –
 - to 20 dB minimum,
 - for incremental a 12 dB minimum intermediate step
 - automatic reset



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Telephones - TTYs

Scoping based on pay phones provided (217.4):

- **Banks (217.4.1) – where 4 or more provided - exception for banks within 200 ft.**
- **Floors and Buildings (217.4.2 & 217.4.3):**
 - where 1 provided (public bldg.)
 - where 4 or more provided (private bldg.)
- **Exterior Sites (217.4.4) – where 4 or more provided**

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Telephones - TTYs

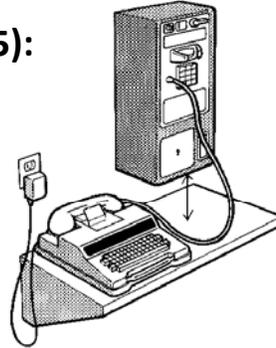
- **Rest Stops, Emergency Roadside Stops, and Service Plazas (217.4.5) – where at least one public pay telephone**
- **Hospitals (217.4.6) – areas serving a hospital emergency room, hospital recovery room, or hospital waiting room**
- **Transportation Facilities (217.4.7):**
 - bus or rail facility entrances
 - airport terminal, concourse, and baggage claim areas

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Telephones - TTYs

- **Detention and Correctional Facilities (217.4.8)** – areas used only by detainees or inmates and security personnel
- **Shelves for Portable TTYs (217.5):**
 - when bank three or more public pay telephones
 - shelf and outlet (704.5)
 - Exceptions for detention/ correction facilities and phone banks with TTYs



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Telephones - TTYs

Technical Provisions:

- **Permanently affixed and telephone cord length/ acoustic coupler (704.4)**
- **Height (704.4.1)** – touch surfaces of keypad 24" min. above finish floor
 - Exception where seats are provided
- **TTY Shelf (704.5)**



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Detectable Warnings

Where required:

- Rail platforms (810.5) – 24 inches min. wide and length of public use area of platform (705.2)
- Curb ramps at transit facilities (DOT Rule)
- Curb ramps at Federal Highway Administration funded projects



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Detectable Warnings



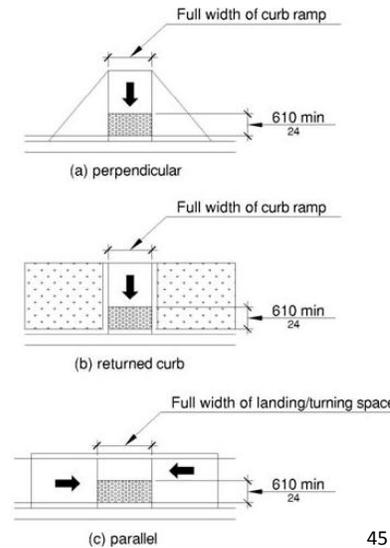
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Detectable Warnings – Curb Ramps

DOT and FHWA – 2 foot min.

Public streets & sidewalks – recommend the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (www.access-board.gov)

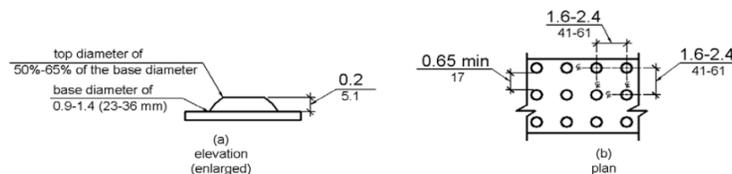


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Detectable Warnings

Greater range of designs & products allowed

- dome diameter (705.1.1) - range
- spacing (705.1.2) - range
- removed: resiliency/ sound-on-cane contact
- color contrast not integral (705.1.3)



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Assistive Listening Systems

Required where (219.2):

- audible communication integral to use of space
- where no audio amplification exception
- courtrooms do not get exception



Not triggered by fixed seating or occupant load

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Assistive Listening Systems

Types of Wireless Systems:

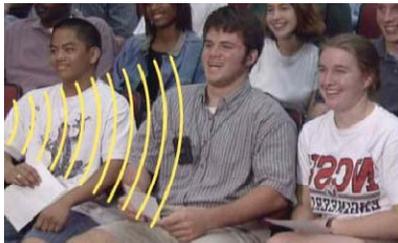
- Infrared
- FM Radio
Transmission
- Induction Loop



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Assistive Listening Systems

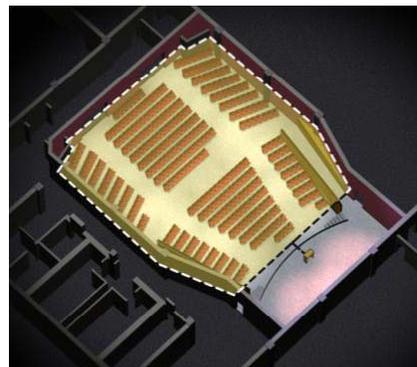


Infrared and FM Systems

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Assistive Listening Systems



Induction Loop System

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Assistive Listening Systems

219.3 Receivers

Table 219.3 Receivers for Assistive Listening Systems

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 ¹	1 per 4 receivers ¹
501 to 1000	20, plus 1 per 33 seats over 500 seats ¹	1 per 4 receivers ¹
1001 to 2000	35, plus 1 per 50 seats over 1000 seats ¹	1 per 4 receivers ¹
2001 and over	55 plus 1 per 100 seats over 2000 seats ¹	1 per 4 receivers ¹

1. Or fraction thereof.

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Assistive Listening Systems

219.3 Receivers

Exceptions:

- multiple assembly areas under one management – total number of seats in building
- induction loop not required to have hearing-aid compatible receivers

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Assistive Listening Systems

Technical Provisions:

- Receiver Jacks (706.2)
- Receiver Hearing-Aid Compatibility (706.3)
- Sound Pressure Level. (706.4)
- Signal-to-Noise Ratio (706.5)
- Peak Clipping Level (706.6)

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ATMs and Fare Machines

Access to 1 of each type at each location (220)

- speech output
- privacy
- input controls
- display screen
- Braille instructions (for speech mode)



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ATMs and Fare Machines

- **Clear Floor or Ground Space (707.2)** – exception for drive up only machines
- **Operable Parts(707.3):**
 - comply with 309 – side reach
 - differentiated by sound or touch without activation unless clear or correct key provided
 - 309 exceptions for drive up only machines

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ATMs and Fare Machines

- **Privacy (707.4)** – same degree of privacy
- **Speech Output (707.5)**
 - speech enabled machine
 - headsets and handsets
 - Exceptions – security, advertisements, and speech synthesis
 - User Control (707.5.1)
 - Receipts (707.5.2)



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ATMs and Fare Machines

- **Input (707.6)**
 - **Input Controls (707.6.1) – tactilely discernible issues**
 - **Numeric Keys (707.6.2) – keypad layout**
 - **Function Keys (707.6.3)**
 - Contrast (707.6.3.1)**
 - Tactile symbols (707.6.3.1)**



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ATMs and Fare Machines

- **Display Screen (707.7) – exception for drive up machines**
 - **Visibility (707.7.1) – from 40 inches above the center of the clear floor space**
 - **Characters (707.7.2) – sans serif font, minimum height, and contrast**
- **Braille Instructions (707.8) – instructions for initiating speech mode**

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Two-Way Communication Systems



Where provided to gain admittance to a building or facility or to restricted areas within a building or facility (230).

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Two-Way Communication Systems

Technical Provisions:

- both audible and visual signals (708.2)
- handset cord length (708.3)
- residential dwelling unit systems (708.4)

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Two-Way Communication Systems

Technical Provisions:

Residential Dwelling Unit systems:

- **common use/public system interface - voice and TTY communications (708.4)**
- **dwelling unit system interface - phone jack supporting voice and TTY communications (708.4)**

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OTHER REQUIREMENTS FOR COMMUNICATION ELEMENTS AND FEATURES

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Transient Lodging Guest Rooms

Table 224.4 Guest Rooms with Communication Features

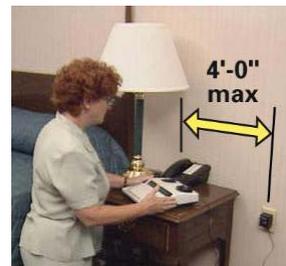
Total Number of Guest Rooms Provided	Minimum Number of Required Guest Rooms With Communication Features
2 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1000	5 percent of total
1001 and over	50, plus 3 for each 100 over 1000

Communication features no longer required in all mobility access rooms - at least 1, no more than 10% (224.5)

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Transient Lodging Guest Rooms

- Alarms (806.3.1) – Fire Alarm Systems (702)
- Notification Devices (806.3.2)
 - incoming telephone calls
 - door knock or bell
 - notification devices not connected to visual alarm signal
 - telephone volume control
 - outlet within 48" of telephone



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Residential Facilities

New section:

- Recognize coverage by HUD 504 regulations
- 5% wheelchair accessible (233.3.1.1)
- 2% communication access features (233.3.1.2)



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Residential Facilities

- Building Fire Alarm System (809.5.1)
 - alarms appliances (702) – when part of building system (809.5.1.1)
 - visual alarm activation – building fire alarm system (809.5.1.2)
- Smoke Detection System (809.5.2)
 - NFPA 72 (1999 or 2002 edition)
 - visual alarm activation (809.5.2.1)

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Residential Facilities

- Interconnection (809.5.3) –visual alarms
- Prohibited Use (809.5.4) – visual alarms cannot be used for any other purpose
- Dwelling Unit Primary Entrance (809.5.5)
 - Notification (809.5.5.1) – hard-wired electronic doorbell with visual signal
 - Identification (809.5.5.2) – identifying visitor without opening door, 180 degree minimum view

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Elevators

Communication Features Addressed

- Elevators and Limited-Use/Limited-Application Elevators (407 & 408)
- Private Residence Elevators (409) – emergency communications

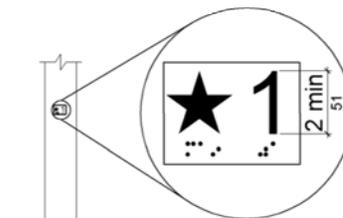


Figure 407.2.3.1
Floor Designations on Jambs of
Elevator Holstway Entrances

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CLASSROOM ACOUSTICS

- **Voluntary consensus standard for acoustics in classrooms - ANSI/ASA S12.60**
- **Acoustical Society of America**
(www.acousticalsociety.org)
- **Access Board's Rulemaking**
(www.access-board.gov/acoustic/)

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Information and Communications Technology (ICT)

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Our world consists of:

- **Architectural environment**
- **Technological environment**

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With regard to technology, the Access Board promulgated:

- **Guidelines for Section 255 of the Telecommunications Act**
- **Standards for Section 508 of the Rehabilitation Act**
- **Assists Election Assistance Commission in development of voting systems guidelines**

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Accessible Voting



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Section 508

- **Rehabilitation Act**
- **Federal departments and agencies**
- **ICT procured, developed, used and maintained**
- **Undue burden**
- **Exceptions**
- **Types of equipment covered**
- **Product support documentation and help desk support services**

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Section 255

- Telecommunications Act
- Telecommunications manufacturers
- Telecommunications equipment
- Readily achievable
- Types of equipment covered
- Consideration of accessibility and inclusion of people with disabilities

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Two Drivers of IT Accessibility



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Why 508?

- **Surge over the past 20 in development of ICT and our use of it**
- **Federal government spends billions on IT annually (buying power)**
- **Increases employment of people with disabilities**
- **Improves access to government services**
- **Increases availability of accessible products**

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Enforcement

- **255 complaints directed to the FCC (Federal Communication Commission)**
 - 255 remedies can include hearings and fines
- **508 complaints directed to specific agencies responsible for their ICT**
- **Right to private civil action also available under 508**
 - 508 remedy is injunctive relief (fix the problem)

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Results of compliance

- **Communication, information and physical access to technology**
- **Benefits to people with vision, hearing, speech, dexterity and cognitive disabilities**

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Hear, See, Feel Accessibility



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Health Information Kiosks

- Tactilely discernible keys
- Audio jack for privacy
- Timed responses provide an alert and means of extending time



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Fingerprint Biometrics



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Accessibility complements Accommodation

- **Accommodation can be assistive technology (AT)**
- **Accessibility (508 and 255) refers to the technological environment (IT) in which the AT operates**
- **Example: screen readers (AT) can be used to understand and help operate accessible software (IT)**

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Accessible Websites

- **Navigate via a keyboard**
- **Text equivalents for pictures**
- **Captions for videos**
- **Identifies row and column headers**

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CAPTCHA

NSF

Audio CAPTCHAs help visually impaired individuals

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Product evaluation

- **No federal certification of products or approval of testing labs and consultants**
- **No government-wide best practices in test methods**
- **Some agencies have their own testing centers (e.g., SSA, ED, VA)**
- **Don't rely exclusively on evaluation and repair tools (for web)**
- **Develop a testing program and budget for it!**

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508 Refresh (draft) includes:

- Provisions supporting video communication (sign language)
- Proposal to harmonize with Web Content Accessibility Guidelines (WCAG)
- Provision on telephone clarity (not just volume gain)
- Provision for preservation of accessibility information

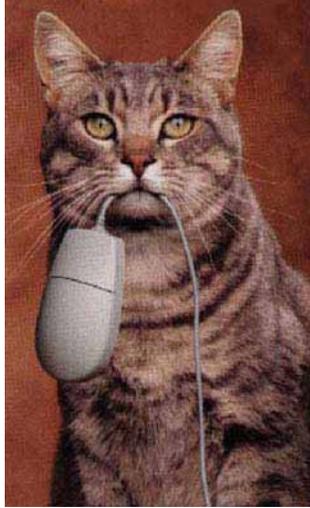
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Resources

- Buy Accessible Product and Services Directory: www.buyaccessible.gov
- FCC: <http://apps.fcc.gov/accessibilityclearinghouse/>
- Section 508 Standards: <http://www.access-board.gov/sec508/standards.htm>
- W3C Web Content Accessibility Guidelines: <http://www.w3.org/TR/WCAG20/>

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Is a mouse covered by 508?



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Questions?

**You May Type and Submit questions in the
Chat Area Text Box or press Control-M and
enter text in the Chat Area**

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U.S. Access Board

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(800) 993-2822 (TTY)

E-mail: ta@access-board.gov

www.access-board.gov

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**Thank you for participating
in today's webinar**



Next scheduled session:

"ACCESSIBLE MINIATURE GOLF COURSES"

June 7, 2012

www.AccessibilityOnline.org

877-232-1990 (V/TTY)

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