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

Audio and Visual are provided through the on-line webinar system. This session is closed captioned. Individuals may also listen via telephone by dialing 712-452-1001 code 990098 # (This is not a Toll Free number)

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www.AccessibilityOnline.org

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

Presenters

David Baquis           Rex Pace
Accessible Communication Elements and Features
Session Agenda

• ADA and ABA Standards Chapter 7 and Additional
• Information and Communications Technology Access

CHAPTER 7
COMMUNICATION ELEMENTS AND FEATURES

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.
Current ADA Standards

2010 ADA Standards for Accessible Design – now only standard

Auxiliary Aids and Services - Effective Communications

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

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.
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)

Online Guidance

www.access-board.gov/ada/

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
CHAPTER 7

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

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

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
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

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)

Signs

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

<table>
<thead>
<tr>
<th>Tactile &amp; Visual</th>
<th>Visual Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Room 123”</td>
<td>“Exit”</td>
</tr>
<tr>
<td>“Restroom”</td>
<td>“Accounting Department”</td>
</tr>
<tr>
<td>“Mechanical Room”</td>
<td>“Visitors must sign in”</td>
</tr>
<tr>
<td>“Exit”</td>
<td>Exempt</td>
</tr>
<tr>
<td>“Floor B”</td>
<td>building directory</td>
</tr>
<tr>
<td>“Ballroom A”</td>
<td>“Mr. C. Smith, Accountant”</td>
</tr>
<tr>
<td>“C. Smith Room”</td>
<td></td>
</tr>
</tbody>
</table>

### 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

### 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
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

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

John Smith
Director
Accounting
123
Tactile Signs

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

Raised Characters

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

Braille

Braille Requirements (703.3)
Tactile Signs

Location (703.4.2):
- placement at doors
- push side exception for doors with closer and no hold open devices

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
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

Pictograms

Symbols of Accessibility
Telephones

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

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

Table 217.2 Wheelchair Accessible Telephones

United States Access Board

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Telephones

Figure 704.2.1.1 Forward Approach to Telephone

Figure 704.2.1.2 Forward Approach to Telephone

704.2.1 Clear Floor or Ground Space

United States Access Board

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Operable Parts - Chapter 3 Requirements

United States Access Board

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Telephones

307 Protruding Objects

UNITED STATES ACCESS BOARD

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

UNITED STATES ACCESS BOARD

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

UNITED STATES ACCESS BOARD
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

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

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)
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

Detectable Warnings

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)
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)

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

Assistive Listening Systems

Types of Wireless Systems:
- Infrared
- FM Radio Transmission
- Induction Loop
Assistive Listening Systems

Infrared and FM Systems

Assistive Listening Systems

Induction Loop System

Assistive Listening Systems

219.3 Receivers

<table>
<thead>
<tr>
<th>Capacity of Seating in Assembly Area</th>
<th>Maximum Number of Seats</th>
<th>Minimum Number of Receivers</th>
<th>Minimum Number of Infrared Receivers Required to Be Hearing-aid Compatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 or fewer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>91 to 200</td>
<td>2 plus 1 per 20 seats</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>201 to 500</td>
<td>2 plus 1 per 20 seats</td>
<td>1 per 4 receivers¹</td>
<td></td>
</tr>
<tr>
<td>501 to 1000</td>
<td>2 plus 1 per 20 seats</td>
<td>1 per 4 receivers²</td>
<td></td>
</tr>
<tr>
<td>1001 to 2500</td>
<td>5 plus 1 per 25 seats</td>
<td>1 per 4 receivers²</td>
<td></td>
</tr>
<tr>
<td>2501 and over</td>
<td>5 plus 1 per 25 seats</td>
<td>1 per 4 receivers²</td>
<td></td>
</tr>
</tbody>
</table>

¹. See Section 1002.2

². See Section 1002.3
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

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)

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)
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

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)

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)
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

Two-Way Communication Systems

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

Two-Way Communication Systems

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

OTHER REQUIREMENTS FOR COMMUNICATION ELEMENTS AND FEATURES

Transient Lodging Guest Rooms

Table 224.4 Guest Rooms with Communication Features

<table>
<thead>
<tr>
<th>Total Number of Guest Rooms Provided</th>
<th>Minimum Number of Guest Rooms with Communication Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 to 19</td>
<td>2</td>
</tr>
<tr>
<td>20 to 49</td>
<td>6</td>
</tr>
<tr>
<td>50 to 99</td>
<td>7</td>
</tr>
<tr>
<td>100 to 199</td>
<td>9</td>
</tr>
<tr>
<td>200 to 299</td>
<td>12</td>
</tr>
<tr>
<td>300 to 499</td>
<td>14</td>
</tr>
<tr>
<td>500 to 999</td>
<td>17</td>
</tr>
<tr>
<td>1000 to 1999</td>
<td>49</td>
</tr>
<tr>
<td>2000 to 4999</td>
<td>32</td>
</tr>
<tr>
<td>5000 to 9999</td>
<td>5 percent of total</td>
</tr>
<tr>
<td>10000 and over</td>
<td>50, plus 5 for each 100 over 1000</td>
</tr>
</tbody>
</table>

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

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)

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)
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

Elevators

Communication Features Addressed

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

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/)
Our world consists of:
• Architectural environment
• Technological environment

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
Accessible Voting

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

Section 255

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

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

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)
Results of compliance

• Communication, information and physical access to technology

• Benefits to people with vision, hearing, speech, dexterity and cognitive disabilities

Hear, See, Feel Accessibility

Health Information Kiosks

• Tactilely discernible keys

• Audio jack for privacy

• Timed responses provide an alert and means of extending time
Fingerprint Biometrics

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)

Accessible Websites

• Navigate via a keyboard
• Text equivalents for pictures
• Captions for videos
• Identifies row and column headers
CAPTCHA

Audio CAPTCHAs help visually impaired individuals

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!

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
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/

Is a mouse covered by 508?

Questions?

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