

Before the

Architectural and Transportation Barriers Compliance Board.

In the Matter of:

Americans with Disabilities Act (ADA) Accessibility) 36 CFR Parts 1191,1193, 1194
Guidelines for Buildings and Facilities;) Docket No. 2010
Telecommunications Act Accessibility Guidelines;) RIN 3014-AA37
Electronic and Information Technology Accessibility)
Standards)

COMMENTS
HEARING LOSS ASSOCIATION OF AMERICA

Hearing Loss Association of America (HLAA) submits these comments in response to the Advanced Notice of Proposed Rulemaking (ANPRM) released by the Architectural and Transportation Barriers Compliance Board (Access Board or Board) to begin the process of updating its standards for electronic and information technology and its Telecommunications Act Accessibility Guidelines.

HLAA is the nation's leading consumer organization representing people with hearing loss. HLAA impacts accessibility, public policy, research, public awareness, and service delivery related to hearing loss on a national and global level. HLAA's national support network includes an office in Bethesda, Maryland, 14 state organizations, and 200 local chapters. The HLAA mission is to open the world of communication to people with hearing loss through information, education, advocacy, and support.

Our comments will be restricted to those sections of the ANRPM that impact people who are hard of hearing or deaf.

I. HLAA General Comments

HLAA applauds the Access Board for their impressive work processing previous 508 and 255 guidelines as well as the TEITAC report to create the ANPRM. We believe the Access Board has created a set of guidelines that are an improvement over current 508 and 255 guidelines and help catch the standards up to advances in technology.

The Access Board is to be commended for:

- Harmonizing 508 and 255: The harmonization of Sections 508 and 255 is a major step forward, especially in light of the way ICT technologies are converging. It would be a large burden on those creating devices that would fall under both 508

and 255 to not have harmonized accessibility guidelines and could create situations where the playing field is not level for all.

- WCAG (Web Accessibility Guidelines) Harmonization: The harmonization with WCAG is critical to those entities, including the federal government, that have web pages that exist and are viewed from many different states and countries.
- Simplification: In a number of locations, the Access Board used subclauses, exceptions, and advisory provisions to simplify language.
- Embedded examples and advisory text: By embedding advisory notes and examples directly in the provisions the Access Board has made some of the more complex provisions much easier to understand. These advisories also provided flexibility to handle future changes in technology.
- Equivalent Facilitation: Provision E106 (Equivalent Facilitation) is of key importance to both industry and consumers. It allows industry the freedom to create solutions that differ from the technical provisions where they will provide equivalent access. This is important especially for new technologies where the technical provisions may not fit well.

II. Missing Provisions

There are a number of aspects of accessibility that are currently not covered under any provision in the ANPRM. Without this coverage it is possible for a product to meet the 508/255 guidelines and not be accessible. These were in the TEITAC report but are not found in the ANPRM. We are particularly concerned about the following missing provision from **Chapter 3** that impacts people who are hard of hearing or deaf:

A. Audio info without Visual Equivalent: No technical provision requiring that all information presented in audio be also available visually.

The Problem

One of the most important provisions in any set of accessibility guidelines is one stating that any information that is needed for operation that is presented in audio also be available visually. Without this provision individuals who are have a significant hearing loss or who are deaf will not be able to access the information.

What is covered (and not covered) by current ANPRM language:

- In Chapter 8 the ANPRM has a number of provisions that place requirements on products with audio output, but they are all designed to facilitate access for people who are hard of hearing. While we strongly support provisions that facilitate access for people who are hard of hearing, we believe that rules

should also include alternate presentation of the audio information so the Chapter 8 provisions to address the needs of people who are deaf.

- Chapter 6 (Synchronized Media Content and Players) only requires alternate formats (e.g. captions or transcripts) for "materials". These provisions do not apply to products in general.
- There are no provisions in the ANPRM that require non audio equivalent if a product beeps or provides synthetic speech output.

Examples of the problem

For example, with the current ANPRM language/rules you could create devices such as these that pass all the technical provisions but that are not accessible to people who have a significant hearing loss or who are deaf:

- a device that beeps (but provides no visual indication) when you are entering data (the beep indicating that the product will be ignoring the keystrokes);
- a device that forwards instructions it receives to the user via synthetic speech only;
- a data recording system that detects an error and gives a warning in synthesized speech (only) that it has ceased recording/monitoring.

HLAA Comment:

We suggest that the following provision be added to **Chapter 3 (Common Functionality)**:

Access to Audio Information ICT shall provide at least one mode of operation where audio is not the only means of conveying information, indicating an action, or prompting a response. Exception: If the audio information is an alerting signal meant to alert at a distance, and the product will work with external non-auditory alerting technologies and is not a public device, the alerting functionality does not need to meet this provision. This uses the same "at least one mode" form as provision 404.4, 704.2, and 905.3.2.3.1

B. Text Interoperability Standard is Missing - No interoperability standard (common interconnection standard) is specified for **Real-Time Text Functionality (902)**.

The Problem

Without a common interconnection standard there is no way to have the interoperability needed to guarantee that text will get from one end to the other across different manufacturers products and systems.

Text is important for individuals who are hard of hearing because it is used for both captioned telephony and for supplementing speech when the user cannot hear it clearly. In addition, text is a primary means for individuals who are deaf to communicate. This includes both individuals who do not know sign language and those who do know sign but are communicating with someone who does not, or who is using a device which does not support high enough quality video.

HLAA Comment:

We strongly suggest including a standard for text interoperability specified for Real-Time Text functionality.

C. Video Interoperability Standard Missing - No interoperability standard (common interconnection standard) is specified for **Video Communication Support (905)**.

The Problem

Without a common interconnection standard there is no way to have the interoperability needed to guarantee that video that is high enough quality will get from one end to the other across different manufacturers products and systems.

Video is important for individuals who are hard of hearing because it is easier to understand someone speaking when you can see their lips, expression and body language as well as using what can be heard and understood on the audio portion of the transmission. Video is also important to allow individuals who do sign to be able to communicate in a way that is functionally equivalent to voice communication.

HLAA Comment:

We urge the Board to include an interoperability standard be specified for Video Communication Support.

D. Dropping Text Support in IP Phones etc. in section 902.6.

The Problem

In the TEITAC report consumers and industry reached consensus on a provision that required IP phones and other voice devices that already had displays on them to display Real-Time Text when it was received.

- The Real-Time Text format allows manufacturers to design products which support character, word, or sentence at a time communication.
- The ability for individuals who are hard of hearing or deaf to be able to communicate in text on mainstream devices instead of having to have

special and expensive devices (such as TTY's) has been a major advance that people who are hard of hearing or deaf were looking forward to in the move to IP based communication. This also represents a significant cost savings to public equipment distribution programs.

- The provision that consensus was reached on did not require any additional hardware be added to any phone. It only required that phones that already had displays or text generation capability include the software to allow them to be used for text conversation in addition to their other uses.

HLAA Comment:

We strongly suggest that the consensus language of TEITAC requiring IP phones and other voice devices that have displays be capable of displaying Real Time Text.

III. HLAA Comments to Specific Sections and Responses to Questions asked by the Board

A. “Voice over Internet Protocol (VoIP) Service.”

“Question 9: The Board is interested in comment on the proposed definitions.”

“Voice over Internet Protocol (VoIP) Service. A service that enables real-time, two-way voice communications requires a broadband connection from the user’s location, requires Internet protocol-compatible customer premises equipment, and permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.”

HLAA Comment on the Definition of VoIP

The definition of VoIP in the ANPRM is based upon its connection to the PSTN. If PSTN is closed down all of these rules will suddenly no longer apply to VoIP. It is also ambiguous as to whether these rules applied to a system which connects to other VoIP systems and not directly to the PSTN. In order for these rules to not be at risk in their application either now or in the future the definition of VoIP should be “voice over IP” and not “ only those voice over IP systems that connect to the PSTN”.

B. “202.6. With Limited Hearing”

“Question 13: The Board is interested in comment on the proposed change to improve access for individuals with hearing impairments, including information on the benefits and costs associated with this change.”

When an auditory mode of operation is provided, at least one mode of operation which improves clarity, reduces background noise, or allows the user control of volume shall be provided.”

“Advisory 202.6 with Limited Hearing. This provision requires ICT that offers an auditory mode of operation to provide at least one mode of operation in an enhanced auditory fashion by reducing background noise, improving clarity and providing user control of amplification.”

The Board’s explanation: “This provision seeks to address access for users with limited hearing. The current standards stipulate that at least one mode be provided in "an enhanced auditory fashion." The provision the Board is considering would require that any auditory features, where provided, include at least one mode of operation that improves clarity, reduces background noise, or allows control of volume. The Board included this change to make the requirement more specific. The Committee considered such a change but did not recommend specific language.”

HLAA Comment:

HLAA supports language that would make the requirement for enhanced audio more specific. However, we believe that because of the wide range of hearing loss, these rules don’t go far enough. Someone with a mild or moderate hearing loss might be able to understand the audio signal if the signal provided is clear **or** the background noise removed, someone else with a severe hearing loss would need both a clear signal **or** no background noise **and** the ability to increase the sound beyond what those with lesser hearing loss would be able to tolerate. That person will need the ability to control the volume in addition to other ways to enhance the signal.

In addition, we note that the Advisory as written conflicts with the draft rule in such a way that it might be difficult to interpret what the Board had in mind if someone looks at these rules without benefit of further explanation.

“202.6. With Limited Hearing. When an auditory mode of operation is provided, at least one mode of operation which improves clarity, reduces background noise, **or** allows the user control of volume shall be provided.”

“Advisory 202.6 with Limited Hearing. This provision requires ICT that offers an auditory mode of operation to provide at least one mode of operation in an enhanced auditory fashion by reducing background noise, improving clarity **and** providing user control of amplification.”

HLAA suggests adoption of the language provided in the Advisory be incorporated in the rule:

202.6. With Limited Hearing This provision requires ICT that offers an auditory mode of operation to provide at least one mode of operation in an enhanced auditory fashion by reducing background noise, improving clarity and providing user control of amplification.

Alternately, we suggest the following:

202.6. With Limited Hearing. When an auditory mode of operation is provided, at least one mode of operation which improves clarity **or** reduces background noise, **and** allows the user control of volume shall be provided.

C. “603 Captions and Transcripts for Audio Content”

“Question 22: The Board is interested in comments on whether there is a voluntary consensus standard which could address some issues related to captioning quality, such as the degree of synchronization required and an allowable error rate.”

The Board’s explanation: “This draft provision is derived substantively from the current standards but has been reorganized for clarity. It distinguishes pre-recorded content from real-time content and audio-only content from synchronized media.”

HLAA Comment:

HLAA contends that consumers depend on synchronization of speech to the captions to be able to understand the meaning of the material. Different standards should be set for captions are being produced live as opposed to those that are provided on material that is pre-recorded.

If the material is live, we believe that a standard should be set allowing no more than two to three seconds delay between the spoken word and the visual rendering of that word. It’s hugely disorienting for someone who is hard of hearing who is attempting to speechread while the audio is playing if the audio/video and the captions are out of sync for more than three seconds. In addition, for someone who is deaf, the video may not make sense at all if the audio/video portions of the programming are delayed beyond three seconds. For example, during the Winter Olympics people using captions found that when a skier would leave the gate, the narrator would follow that skier down the trail, explaining what happened along the way. Because the captions were a full 6-10 seconds behind the spoken word, the visuals did not match the captions at all. Often, the race was done before the

captions had begun to explain what the skier was doing, leaving the person depending on captions with little ability to understand what had happened.

For pre-recorded material, captions should be in sync with the material, that is the captions are viewed at the same time the speaker is providing the words.

In addition, it is time to set standards for an allowable error rate/accuracy rate. We note that the National Court Reporters Association (NCRA) certifies CART providers (CCP), Realtime Reporters (CRR), and Broadcast Captioners (CBC) when they pass a test with a 96% accuracy rate at 180 words per minute. For live reporting, we believe that is a minimum acceptable error rate/accuracy rate.

For pre-recorded material, there is no reason to have any errors at all. The captions must be 100% accurate.

D. “607 User Controls for Captions and Video Description”

“Question 23: The Board seeks comment on any impact this approach may have on manufacturers of hardware or software for audio video players.”

“607.2 User Controls Location. Location of user controls for closed captions and video description shall conform to 607.2.1 through 607.2.3.”

“607.2.1 Caption Controls. When controls are provided for the selection of volume, controls for the selection of captions shall be provided in at least one location that is comparable in prominence to the location of the controls for volume.”

“607.2.2 Dedicated Video Description Controls. When controls are provided for the selection of channels, the controls for the selection of video description shall be provided in at least one location that is comparable in prominence to the location of the controls for channels.”

“Advisory 607.2.1 Dedicated Caption Controls; Advisory 607.2.2 Dedicated Video Description Controls. The user controls needed to access captioning and video description must be in at least one location that is comparable in prominence to the controls needed to control volume or program selection. At a minimum, this requires placement of such controls on either the product’s physical apparatus or its remote control, where the ability to control volume or program selection is otherwise provided on that apparatus or remote control.”

HLAA Comments

While we understand this question is directed to manufacturers of hardware or software, we would be remiss if we did not provide comment. HLAA strongly supports standards that would provide for the location of user controls for closed

captions and video description that are comparable to the location of controls for volume or the program selection. For years consumers have struggled with different models of televisions providing different ways to access the captioning feature. Now that digital television is here, it is even more complex, particularly when there is also a set top box linked in. This is of particular concern when a person who is hard of hearing or deaf attempts to access a television that is unfamiliar, such as in a hotel while traveling or in a public place. Should there be an emergency, that person may not have access to important information that could save his or her life.

E. “608 Audio Track and Volume Control”

“**Question 23:** The Board seeks comment on any impact this approach may have on manufacturers of hardware or software for audio video players.”

“**Advisory 608.1 General.** The intent of this provision is to provide users with a control so that they can distinguish speech from background audio. Examples of ICT that displays and processes synchronized media are audio visual players and displays.

“This provision applies to players of digital broadcast signals and players of media. An example of this is a DVD player.

“A best practice is to produce videos with speech and background sounds on separate tracks in order for users to be able to select a preferred audio track.

“Some individuals with hearing loss may find it difficult to understand speech in videos or broadcasts when there is competing background music or other sound effects.

“In some videos developed under the DTV A/53 Standard, users may choose to listen to speech only, without background sound that may interfere with comprehension.”

HLAA Comment:

HLAA strongly supports this provision. There is a significant need for people with hearing loss to be able to separate out and reduce or eliminate any music or background sounds and as well as control the volume of the speech. To make speech more understandable, it would be hugely beneficial to be able to control the audio on each track. We strongly support Section 608.

F. “803 ICT Typically Held to the Ear”

“Question 25: The Board is interested in comment on these provisions, including information on the benefits and costs associated with the proposed requirement for volume gain. In addition, the Board seeks comment on whether the specified volume gain for cellular and landline telephones should be consistent since the amplification needs of people who are hard of hearing are the same for both products.”

The Board’s explanation: "The Board is considering this provision to address requirements for volume gain in products with audio output (either two way voice communication or one way audio output), that are typically held to the ear. It specifies a minimum adjustable gain level of 18 dB, with a baseline to ensure measurability and consistency among products. These specifications differ from the current standards and guidelines (which require a gain adjustable up to a minimum of 20 dB but do not specify a baseline). In addition, the provision differs from the recommendation of the Committee.

"The Committee recommended harmonization with the current FCC Part 68 regulation, which requires a gain adjustable up to a minimum of 18 dB gain for analog telephones and a 15 dB minimum gain for other telephones. However, FCC Part 68 specifies 12 dB as an allowable minimum gain. The Board is concerned that a product designed with a 12 dB or 15 dB minimum gain will not sufficiently meet the needs of individuals with hearing impairments.

"This section also includes requirements for incremental volume control and automatic reset that are consistent with the current standards and guidelines. An exception for reset manual override was added at the recommendation of the Committee and is consistent with FCC policy) (see FCC Memorandum Opinion and Order, DA 01-578, March 5, 2001;http://fjallfoss.fcc.gov/edocs_public/attachmatch/DA-01-578A1.doc). The requirements specified in the FCC Memorandum Opinion and Order have been included in the draft.

"Requirements for magnetic coupling and minimized interference (803.5) are also included in this section and are consistent with the standards and guidelines. The Board departed from the recommendations of the Committee by including a requirement for magnetic coupling to apply to headsets because they are part of telecommunications products. The draft extends the minimized interference requirement to ICT that may not necessarily be used for telecommunications, such as wands used for listening to museum audio tours.”

HLAA Comment

HLAA agrees that a minimum gain of 12 or 15 dB is not sufficient to help many people with hearing loss and agrees with a minimum gain of 18dB. More and more people are aging in to hearing loss. Long before they will identify themselves as having a hearing loss and see the need to augment their residual

hearing with devices such as hearing aids, assistive devices or other personal listening systems, they will need access to a boost in the volume of their telephone. Those who have self-identified will also often find they need significant boost to understand what is being said.

We also agree with the incremental volume gain as well as the automatic reset to protect the hearing of people who do not yet have a hearing loss.

We would, however, urge the Board to take another look at research on cellular phone audio output. We understand that research is underway now that examines the audio output of cellular phones and how that interacts with hearing aids. We would want to be sure that the standards in place will in fact reflect the research that may show that the output of cellular phones when used with a hearing aid may in fact need a different minimum gain than landline phones.

In addition, we strongly support the Board's inclusion of requirements for magnetic coupling to apply to headsets.

G. "907 Alternate Alerting for VoIP Telephone Systems"

"Question 28: The Board seeks comment on the requirement that a signal be provided on all incoming calls on VoIP systems. Should the requirement be limited, or should it apply to all such calls? Should this feature be selectable by the user?"

"As recommended by Committee, in this new section the Board is considering requiring that a signal be provided to indicate incoming calls on VoIP systems. This requirement can be met through either built-in or compatible signaler solutions. Advisory notes clarify sufficiency of audible and visual signaling technology."

HLAA Comment

HLAA supports recommendations that an alternate signal be provided on all incoming calls on VoIP systems.

However, we suggest that not only visual, tactile or loud audible signals be provided, but also signals that provide low or multiple frequency audible alerts be provided as well. People with hearing loss tend to lose the ability to hear high frequency sound before low frequency sound. Some people cannot hear the high pitched, though very loud signal from a fire alert, where they may be able to hear a low/dual/multiple frequency alert. We suggest that low/dual/multiple frequency alerts be required. We also suggest that this feature be selectable, so that people who do need visual, tactile, loud or low/dual/multiple frequency alerts can access the one that would be most beneficial, or not at all if not needed.

Hearing Loss Association thanks the Board for this opportunity to submit comments.

Respectfully submitted,

A handwritten signature in black ink that reads "Brenda Battat". The signature is written in a cursive, flowing style.

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June 14, 2010