



Access to telecommunications for people with disabilities is a good idea. But it's more than that; it's also the law. The Telecommunications Act of 1996, a comprehensive law overhauling regulation of the telecommunications industry, recognizes the importance of access to telecommunications for people with disabilities in the Information Age. Accessibility is addressed in section 255 of the law. The Access Board has issued this bulletin to explain this section of the law and the Board's guidelines for accessible telecommunications products. The information presented here is intended solely as informal guidance and is not a determination of the legal rights or responsibilities of entities subject to section 255.

**UNITED STATES ACCESS BOARD**  
A FEDERAL AGENCY COMMITTED TO ACCESSIBLE DESIGN



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## **BULLETIN #7: ACCESS TO TELECOMMUNICATIONS**

### **THE LAW**

***Telecommunications Act of  
1996  
47 U.S.C. § 255***

*Access by Persons with  
Disabilities.*

(a) *DEFINITIONS*{...}

(b) *MANUFACTURING*\_ A manufacturer of telecommunications equipment or customer premises equipment shall ensure that the equipment is designed, developed, and fabricated to be accessible to and usable by individuals with disabilities, if readily achievable.

(c) *TELECOMMUNICATIONS SERVICES*\_ A provider of telecommunications service shall ensure that the service is accessible to and usable by individuals with disabilities, if readily achievable.

(d) *COMPATIBILITY*\_ Whenever the requirements of subsections (b) and (c) are not readily achievable, such a manufacturer or provider shall ensure that the equipment or service is compatible with existing peripheral devices or

### **Section 255**

As technology continues to improve our means of telecommunication, it can pose challenges to accessibility on one hand, while on the other hold the key to innovative access solutions. Section 255 of the Telecommunications Act requires telecommunications products and services to be accessible to people with disabilities. This is required to the extent access is "readily achievable," meaning easily accomplishable, without much difficulty or expense. If manufacturers cannot make their products accessible then they must design products to be compatible with adaptive equipment used by people with disabilities, where readily achievable. What is "readily achievable" will be different for each manufacturer based on the costs of making products accessible or compatible and their resources.

### **What's Covered**

Telecommunications products covered include:

- wired and wireless telecommunication devices, such as telephones (including pay phones and cellular phones), pagers, and fax machines
- other products that have a telecommunication service capability, such as computers with modems
- equipment that carriers use to provide services, such as a phone company's switching equipment.

The possible functions of a product are key in determining coverage. If a product can provide telecommunication services, then that portion is covered. For example, televisions generally are not covered by section 255, except where a set-top-box enables e-mail communication or Internet access, and then only that device is covered.

### **Section 255's Likely Effect**

Because section 255 applies only to products designed, developed and fabricated after the law took effect on February 8, 1996, and does not require changes to existing products, its overall impact likely will not be immediate. It certainly stands to improve access and the number and range of accessible products. Still, not every new product or service will be accessible to all persons with disabilities. Manufacturers and service providers, however, are finding that as they make products easier to use by people with disabilities, they often make them easier to use by everyone; some access features, such

*specialized customer premises equipment commonly used by individuals with disabilities to achieve access, if readily achievable.*

(e) *GUIDELINES\_ Within 18 months after the date of enactment of the Telecommunications Act of 1996, the Architectural and Transportation Barriers Compliance Board shall develop guidelines for accessibility of telecommunications equipment and customer premises equipment in conjunction with the Commission. The Board shall review and update the guidelines periodically.*

#### §153. Definitions

*Customer Premises Equipment - The term customer premises equipment means equipment employed on the premises of a person (other than a carrier) to originate, route, or terminate telecommunications.*

*Telecommunications - The term telecommunications means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.*

*Telecommunications Equipment - The term telecommunications equipment means equipment, other than customer premises equipment, used by a carrier to provide telecommunications services, and includes software integral to such equipment (including upgrades).*

as vibrating alerts on pagers and talking caller ID, have benefits for all users.

## THE GUIDELINES

### What makes telecommunications products accessible?

Manufacturers must ensure that products are "designed, developed, and fabricated to be accessible to and usable by individuals with disabilities" when it is readily achievable to do so. The Access Board was given the job of developing guidelines that spell out what makes telecommunications products accessible.

### What is the Access Board?

The Access Board is an independent Federal agency that develops and maintains accessibility guidelines and standards. This includes not only the guidelines issued under the Telecommunications Act, but guidelines for the built environment and transit vehicles developed under other laws such as the Americans with Disabilities Act, as well as standards for electronic and information technology. The Board provides technical assistance and training on its guidelines and standards, but does not have any enforcement authority under the Telecommunications Act.

### Telecommunications Act Accessibility Guidelines

The Board's final guidelines, published in February 1998, were developed with help from an advisory committee the Board created for this purpose. The Telecommunications Access Advisory Committee included product manufacturers, service providers, disability groups, and experts in communication access. The final guidelines were developed closely based upon this committee's recommendations. The guidelines were published in proposed form and made available for public comment in April 1997.

### Performance Criteria

The guidelines focus on establishing what equipment must be able to do, as opposed to specifying exactly how access is achieved, which will likely vary among different types of products. Structured as performance requirements, the guidelines detail the operating characteristics and product capabilities necessary for access. This approach is used because the products covered are varied and ever changing through technological innovations. The guidelines address products and equipment, including input, output, operating controls and mechanisms, and product information and documentation. Access is covered for people with disabilities affecting hearing, vision, movement, manipulation, speech, and interpretation of information.

### Advisory "Strategies"

The guidelines also provide guidance material on how certain performance requirements can be met. These "strategies" provide examples on the means for achieving access. This information, contained in the appendix to the guidelines, is advisory rather than mandatory.

### Input, Control, and Mechanical Functions

The guidelines require that input, control, and mechanical functions be accessible so that they can be used by people with:

- no vision, low vision, or limited color perception
- limited or no hearing
- limited manual dexterity, reach or strength
- limited or no speech ability

*Since many people with low vision may also have hearing loss, a means of access for people with low vision must be provided that is not in audible form. Strategies for access by people without vision can include enhanced tactile features, ranging from something as simple as a nib on the "5" key of standard numeric pads, to distinct shapes for keys and buttons that can be located and identified by touch.*

- limited cognitive skills

For example, the guidelines require that a product be operable without vision by providing at least one mode that does not require user vision. Another example from the guidelines requires that a product be operable without hearing by providing at least one mode that does not require user auditory perception.

A product must meet each requirement when it is "readily achievable" to do so. Determining what is readily achievable for each product is to be "assessed independently" for each specified type of access. For example, making a product operable without vision is to be explored separately from the ability to make it operable without hearing.

### **Output, Display, and Control Functions**

All information necessary for operating and using products must:

- be available in audible form and, where appropriate, tactile form (for people with no vision)
- be available in a form other than audible that is accessible to people with low vision and little or no hearing
- be available in visual form (for people with no hearing)
- be available in enhanced audible form, such as increased amplification, increased signal-to-noise ratio, or a combination (for people who are hard of hearing)
- allow moving text, where used, to be presented in a static form at the user's option (for people with limited cognitive skills or vision)
- have minimum visual flicker (to help prevent seizures in persons with photosensitive epilepsy)
- allow audio cutoff where external speakers are used through standard connectors for headphones or personal listening devices
- minimize interference with hearing aids and other hearing technologies
- allow wireless coupling to hearing aids where audio transducers normally held up to the ear are used

*Strategies for making product output accessible to people with little or no hearing include visual or tactile signals to indicate a call, page, or other message.*

For example, the guidelines require that visual information be provided in at least one audible mode and auditory information in visual form (and, where appropriate, in tactile form). As with the criteria for input, the ability for a product to meet these requirements is to be "assessed independently," meaning on a requirement-by-requirement basis.

### **Product Compatibility with Adaptive Equipment**

The guidelines also cover compatibility between products and adaptive equipment people with disabilities commonly use for access to telecommunications. This is required where it is not readily achievable to make the product directly accessible to the user. Requirements for compatibility include:

- providing all information for operating products in a standard electronic text format since people with significant or multiple disabilities may not be able to use the built-in displays and control mechanisms of a product
- a connection point on products with auditory output so that people with hearing impairments can plug in devices, such as hearing aids and amplifying headphones, that isolate and enhance the output
- compatibility with prosthetics so that touch screens and touch controls can be operated by head sticks and other prosthetics instead of by

*People who use assistive devices such as amplifiers need a standard noise-free way to tap into the audio generated by a product.*

**Telecommunications Act  
Accessibility Guidelines**  
§ 1193.33 Information,  
documentation, and training.  
(a) Manufacturers shall ensure

*access to information and documentation it provides to its customers. Such information and documentation includes user guides, installation guides for end-user installable devices, and product support communications, regarding both the product in general and the accessibility features of the product...*

- body contact
- connections for TTYs on products allowing voice communication and compatibility with TTY signals

### **Design Planning and Product Information**

Manufacturers are required to develop a process for ensuring that access and usability are considered in the earliest design phases for a product. The guidelines also require access to user guides, installation guides, and product support. This includes information on the product in general and on its accessibility features. Access requires provision of information through alternate formats or modes of communication, such as:

- Braille
- cassette recordings
- large print
- electronic text
- Internet postings
- TTY access
- captioning and audio description for video materials

### **Telecommunications Act of 1996 47 U.S.C. § 255**

*(f) NO ADDITIONAL PRIVATE RIGHTS AUTHORIZED\_ Nothing in this section shall be construed to authorize any private right of action to enforce any requirement of this section or any regulation thereunder. The Commission shall have exclusive jurisdiction with respect to any complaint under this section.*

The guidelines provide advisory information on these formats and communication methods, including how they serve people with disabilities and recommendations for good practice.

### **ENFORCEMENT**

The Federal Communications Commission (FCC) has sole jurisdiction over enforcement of section 255, and the law does not provide any "private right of action" which means that anyone concerned about access as required under the law can file a complaint with the FCC, but not a suit in court. Regulations issued by the FCC will explain the enforcement process and compliance with the law, including the role of the Board's guidelines.

### **FURTHER INFORMATION**

***This technical assistance is intended solely as informal guidance; it is not a determination of the legal rights or responsibilities of entities subject to the Telecommunications Act.***

For technical assistance on, or copies of, the accessibility guidelines contact:

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For information and research on accessible telecommunications contact:

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