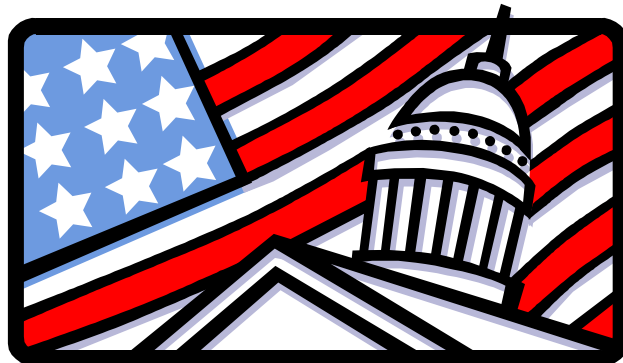


**National Association of the Deaf
46th Biennial Conference
July 3-8, 2002
Washington DC 20002**

**TELECOMMUNICATIONS ACCESS:
WHERE HAS IT BEEN
AND WHERE IS IT HEADED?**

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Federal Protections



Rehabilitation Act of 1973 (federal employment and federally assisted programs)

Telecommunications for the Disabled Act of 1982 (hearing aid compatibility and specialized customer premises equipment)

Americans with Disabilities Act of 1990 (physical and communications access)

Decoder Circuitry Act of 1990 (captioning chips in televisions)

Telecommunications Act of 1996 (access to telecommunications products and services, closed captioning)

TELECOMMUNICATIONS RELAY SERVICES

Title IV of the Americans with Disabilities Act: TRS required since July, 1993.

Goal: Telephone service that is functionally equivalent to voice telecommunications services

Improvements Mandated Over the Past Two Years:

- Speech-to-speech relay services
- Interstate Spanish relay services
- 7-1-1 access nationwide
- 60 words per minute
- “Pay-per-call” (e.g., 900 number) calls
- Tighter speed-of-answer requirements
- Minimum of 10 minutes before CA transfer

TELECOMMUNICATIONS RELAY SERVICES (continued)

- Shifting of caller profiles to new relay providers
- Automatic transfer of emergency calls to 911 centers
- Added access to IVR and voice menu systems
- Logs of consumer complaints sent to FCC
- Video relay services permitted and reimbursable, not required

Open FCC Proceeding (CC Docket 98-67)

- Establishment of a national relay outreach and education campaign
- New relay technologies, including access to SS7 technology
- Benefits of a separate 800 nationwide number for speech-to-speech relay services

TELECOMMUNICATIONS RELAY SERVICES (continued)

New Relay Technologies

IP Relay – Relay over the Internet

- User connects to the relay service via an Internet service provider with a computer, web phone, personal digital assistant or other device. TTY is not needed.
- FCC: IP Relay is a permitted and reimbursable relay service (April, 2002). Tentative reimbursement from Interstate Relay Fund; Limited exemptions for certain minimum relay standards.

Benefits:

- Can use portable devices to access TRS
- Can make multiple calls simultaneously; conference calls
- Can browse the Internet while on a relay call

TELECOMMUNICATIONS RELAY SERVICES

- Relay competition – users can choose among relay providers across the nation
- Text protocol conversion (from TTY to computer) may be achieved

Open FCC Proceeding on reimbursement of IP costs:
CC Docket 98-67. Comments due July 11, 2002;
Reply Comments due July 26, 2002

CapTel – New Voice Carryover Technology

- A TRS user with voice calls the number he or she wants to reach directly, using a captioned telephone.
- The relay equipment automatically connects the user's line to a second outgoing line from the relay service to the called party. The caller is also automatically connected with a communications assistant (CA).
- The caller talks directly to the called party and the CA re-voices what the voice party responds. Using voice recognition technology, the computer automatically transcribes what the CA says into text, which appears on the captioned telephone.
- The caller simultaneously listens and reads the party's responses.

Open FCC proceeding on CapTel: CC Docket 98-67.
Comments sought on whether CapTel should be defined as a relay service. Comments due July 26, 2002; Reply comments due: August 12, 2002.

HEARING AID COMPATIBILITY

All telephones manufactured in or imported for use in the United States after 1989 must be hearing aid compatible (HAC).

Temporary exemption for wireless telephones – may be revoked if:

- Revocation is in the public interest
- Continuation of the exemption would have an adverse effect on individuals with hearing disabilities
- Compliance with the HAC requirements is technologically feasible
- Compliance with the HAC requirements would not increase costs so much that the telephones could not be successfully marketed

FCC Open Proceedings

Notice of Proposed Rulemaking to remove HAC exemption for wireless phones. WT Docket No. 01-309 (released November 2001).

Part 22 Biennial Review – Proceeding to consider eliminating analog service. Seeks effect on people with hearing disabilities. WT Docket 01-108.

TTY COMPATIBILITY WITH WIRELESS PHONES

1996 Order on Enhanced 911 Emergency Calling (E911):

- Directed digital telephone companies to make wireless services accessible to TTYs.
- June 30, 2002: Deadline by which wireless technology had to be accessible to TTY users.
- 5–6 nationwide wireless providers are in compliance as of July 1, 2002
- Minor waiver requests granted for small carriers, small areas of the country
- Quarterly reporting to monitor progress

TTY Forum

Voluntary forum to achieve TTY wireless solutions. Members are digital wireless service providers, wireless handset manufacturers, TTY manufacturers, consumers, public safety groups (911 centers)

TELEVISED CLOSED CAPTIONING

Where are we now? Important Benchmarks (all per quarter/year):

New Programming: As of January, 2002, 900 hours (approximately 50%) of new television programming (programming first shown after January 1, 1998) must be captioned (100% by 2006)

Pre-rule Programming: By January 2003, 30% of older programming (programming first shown before January 1, 1998) must be captioned (75% by 2008)

Spanish language programming: As of January, 2001, 450 hours (approximately 25%) of new television Spanish language programming must be captioned (100% by 2010; 75% of older Spanish language programming by 2012)

Digital Television Programming: As of July 1, 2002, DTV receivers must enable consumers to control the print type, color, size, and background of captions. Multiple streams of captioning possible.

TELEVISED CLOSED CAPTIONING (continued)

Emergency Programming: Must be accessible via closed captions or other visual methods.

- Requires access to information intended to further the protection of life, health, safety, or property.
- Examples: hazardous weather situations, including tornadoes, heavy snows, hurricanes and earthquakes; dangerous community situations including the discharge of toxic gases, criminal activities, widespread power failures, school closings.
- Information may be closed captioned or presented through open captions, crawls, or scrolls that appear on the screen. Emergency information cannot block the program's closed captions.
- Information must include critical details regarding the emergency and how to respond.
- No exemptions or phase-in period. Effective now.

SECTION 255 OF THE COMMUNICATIONS ACT

ACCESSIBILITY: Telecommunications manufacturers and service providers must make their products and services accessible to people with disabilities, if readily achievable.

- Companies must evaluate and incorporate access throughout the design, development, and fabrication stages of product and service development: as early and consistently as possible.
- Companies must include people with disabilities in market research, product testing and trials, pilot demonstrations; work cooperatively with disability-related organizations.

COMPATIBILITY: When it is not readily achievable to make equipment and services accessible, manufacturers and service providers must make these compatible with peripheral devices or specialized customer premises equipment commonly used by people with disabilities, where readily achievable. For example, this requires the ability to use TTYs with telephonic equipment.

UNIVERSAL DESIGN

Definition:

“A concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly usable (without requiring assistive technologies) and products and services that are made usable with assistive technologies.” (Assistive Technology Act of 1998)

Various Applications:

- Architectural Design (Americans with Disabilities Act)
- Telecommunications (Section 255 of the Communications Act)
- Education (IDEA Reauthorization)

Key:

Consider access during the design and development of what is being built or manufactured, or during natural opportunities when the item is upgraded.

SECTION 255 OF THE COMMUNICATIONS ACT (cont.)

Telecommunications Services: “Offering of telecommunications for a fee directly to the public” – refers to the transmission of information of the user’s choosing, without change in the form or content of the information as sent and received.
(Telecommunications Act of 1996)

- basic telephone services, adjunct-to-basic services, including call waiting, speed dialing, call forwarding, call monitoring, caller ID, call tracing and repeat dialing
- interactive voice response systems and voice menus

Telecommunications Equipment:

- Customer Premises Equipment: Equipment used by an individual to originate, route, or terminate telecommunications – includes wireline and wireless telephones, pagers, fax machines, direct-connect TTYs, answering machines.
- Equipment used by a carrier to provide telecommunications services

SECTION 255 OF THE COMMUNICATIONS ACT (cont.)

Readily Achievable: Case-by-case analysis
by FCC:

- Easily accomplishable without much difficulty or expense.
- Balance the costs and nature of the access required with available resources, including the available resources of parent companies.
- No “fundamental alterations” of the product are required.
- Access features that are not technically feasible are not required.

SECTION 255 OF THE COMMUNICATIONS ACT (cont.)

Usability: Section 255 requires that individuals with disabilities be able to learn about and operate telecommunications products and services effectively. Requires access to information and documentation for the item, including accessible product/service instructions, user guides, and bills; access to technical support services, including call centers, service centers, and repair services

Network: Section 251 of the Communications Act prohibits telephone providers from installing network features, functions, or capabilities that do not comply with the Section 255 guidelines

FCC Notice of Inquiry (still pending): FCC open proceeding initiated in 1999, to consider Section 255 coverage of:

- Internet (IP) telephony services
- Computer-based equipment used for telecommunications that is not connected to the public telephone network

SECTION 255 OF THE COMMUNICATIONS ACT (cont.)

Implementation of Section 255 since 1996:

- Heightened awareness and expertise by industry
- Collaborative relationships between industry and consumers: Consumer-industry forums; consumer focus groups
 - ▲ Telecommunications Access Advisory Committee
 - ▲ Electronic and Information Technology Access Advisory Committee
 - ▲ IVR Forum
 - ▲ TTY Forum
 - ▲ Consumer/Disability Telecommunications Advisory Committee

FCC Disabilities Rights Office within the FCC's Consumer and Governmental Affairs Bureau (CGB)

- Maintains points of contact
- CGB receives complaints

SECTION 255 OF THE COMMUNICATIONS ACT (cont.)

Companies have begun to incorporate accessibility features in their products and services. A few examples are:

Accessible caller ID	Volume changes
Accessible intercept messages	Vibrating features
Nibs or capital letters on keypads	Color contrasts
Font change ability	Jack for TTY access
Background lighting adjustments	

Companies have also made changes to their internal processes:

- Efforts to incorporate universal design principles into their design processes
- Creation of offices of accessibility
- Development of accessible websites
- Increase in accessible product information; support services, including technical support hotlines and call centers.

SECTION 255 OF THE COMMUNICATIONS ACT (cont.)

Still Needs Attention:

- Hearing aid compatible wireless handsets
- Audible controls on wireless phones
- Visual access to adjunct-to-basic features (call waiting, forwarding, etc.)
- Access to interactive voice response systems and voice menu
- Access to network tones and announcements

SECTION 508 OF THE REHABILITATION ACT

Access to electronic and information technology

(EIT): Federal agencies must procure, use, and maintain electronic and information technology (EIT) that is accessible to

1. Federal employees with disabilities, and
2. Individuals with disabilities outside the Federal government who need government information.
 - Contractors who provide services or products to these agencies must also provide accessible offerings.
 - Federal agencies need not provide such access if they can prove that doing so would impose an undue burden.

Definition of EIT: “Any equipment or interconnected system or subsystem of equipment, used in the creation, conversion, or duplication of data or information.”

Examples: computers - hardware and software, keyboards, telecommunications equipment, web-based information and applications, information kiosks, office equipment such as copiers and fax machines, and multimedia applications. Multimedia applications include: video, audio, animation, graphics, and text delivered via video and audiotape, CD- and DVD-ROM, Internet, broadcast, narrowcast, and satellite.

INTERACTIVE VOICE RESPONSE SYSTEMS

Definition

Telephone systems that provide menu options for callers to select messages and to make communications choices (e.g., Press 1 for a certain person; Press 2 for a reservation, etc.)

Uses

IVR systems and voice menus are used throughout the U.S., by banks, schools, governmental agencies, transportation systems, etc.

Problems with Accessibility

Not generally accessible for TTY users, relay users, persons who are hard of hearing, and persons with other types of disabilities.

Relay Services

No double charges permitted when repeat calls are needed; "hot key" to alert TRS callers that IVR system has been reached; TRS centers permitted to record messages for length of the call.

INTERACTIVE VOICE RESPONSE SYSTEMS (continued)

Mandates for Accessibility:

Communications Act (Section 255): Requires manufacturers of IVR systems to make their systems accessible

Americans with Disabilities Act (Titles II and III): Requires places of public accommodation and state and local governments to provide effective telephone communication with people with disabilities

Rehabilitation Act (Section 508): Requires federal agencies to have electronic, information and telecommunications technologies that are accessible by people with disabilities.

- Voice mail and IVR systems shall be usable by TTY users.
- Voice mail and IVR systems that require a response from a user within a time interval shall give an alert when the time interval is about to run out, and shall provide sufficient time for the user to indicate more time is required.

INTERACTIVE VOICE RESPONSE SYSTEMS (continued)

IVR Forum

- Created in June of 2001 by Alliance for Telecommunications Industry Solutions (ATIS)
- Meets 4 times each year
- **Purpose:** Identify accessibility and usability solutions for IVR and voice mail systems
- **Composition:** Telecommunications manufacturers, wireless and wireline telephone carriers, consumers, research entities
- **Consumer Outreach and Input Subgroup:** To recruit the active participation of individuals with disabilities and their advocacy organizations so that specific user needs regarding IVR accessibility are more fully understood.
- **Message Tones and Announcements** – examining this issue
- **More information:** www.atis.org/atis/ivr/ivrhom.htm.

BROADBAND

High Speed Internet Access: Cable, DSL – Wireline, Satellite

Uses:

- Video telephony (sign language over video)
- Two-way text communications; Internet chat
- Simultaneous voice/speech communications
- IP Relay services
- Multiple conferencing
- “Always on” connection
- Streaming video at faster speeds, higher resolutions and greater areas of the screen

BROADBAND (continued)

Accessibility Issues:

- Hardware and software installed to use broadband should not distort or deny accessibility features
- Compatibility needed with TTY text – avoid garbling that could occur through compression, expansion, and Internet transmissions
- Open standards for text messaging needed
- Flashing ring indicators needed to alert existence of calls
- Clarity of speech transmissions needed for people who are hard of hearing or have difficult-to-understand speech
- Broadband in both directions needed for video signing

BROADBAND (continued)

Will Disability Access to Broadband be Protected?

FCC Open Proceedings:

In the Matter of Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, CC Dockets. No. 02-33, 95-20, 98-10

In the Matter of Inquiry Concerning High Speed Access to the Internet Over Cable and Other Facilities, GN Docket 00-185; CS Docket 02-52

Congressional Action – Consumer advocates proposing federal legislation to parallel Section 255 mandates

SPECTRUM

216-217 MHz – used for auditory assistive devices (FM systems) – requires little battery power, and provides clear, high-quality sound for persons who are hard of hearing. Since 1996, thousands of schools, concert halls, movie theaters, and institutions have relied on the 216-217 band.

Prior spectrum – 72-76 MHz had become congested with use from high power industrial communications sources. The result was substantial interference.

Balanced Budget Act of 1997 – directed the National Telecommunications and Information Administration (a branch of the U.S. Commerce Department) to reallocate certain spectrum, including the 216-217 band.

December 2001: FCC elevated Low Power Radio Services in the 216-217 band from secondary to primary status – This will protect access to this bandwidth and provide a permanent home for auditory assistance devices.

COMPLAINTS TO THE FCC

For the most part, the FCC relies on complaints to enforce many of the above laws. **In order to file a complaint with the FCC:**

Put together detailed information about your problem (e.g., lack of access to a telecommunications product, failure of a network to provide closed captioning, etc.). Explain what your concern is, when it occurred, and, if you tried to resolve it on your own, provide details of the response from the company or network.

Send your complaint to the FCC:

- By postal mail: Consumer and Governmental Affairs Bureau, 445 12th Street, SW, Washington, DC 20554;
or
- By fax: 202-418-0232; **or**
- By e-mail: fccinfo@fcc.gov. If you send a copy of your complaint to access@fcc.gov, it may also be received by the Disabilities Rights Office.

You may also contact the FCC by phone 1-888-225-5322 (voice) and 1-888-835-5322 (TTY); e-mail audio-cassette recording; and Braille.

Comments: May file electronically: www.fcc.gov/e-file/ecfs.html

What is on the Horizon?

New Technologies

- Information Services
- Broadband Access
- IP Telephony
- Convergence of voice, data, graphics, and video
- Digitization
- Multimedia applications
- Wireless and blue-tooth applications

Access needed for all walks of life: Jobs, information, education, entertainment, health and independence

Access is needed at all phases: Interfaces (visual), content (captioning), basic and advanced features (full functionality needed for programming, searching, storing, etc), customer service and technical support

What is on the Horizon? (continued)

Leveling the playing field: The goal is achieving independence and autonomy by having full access to all technologies.

Federal policy: No access charges, taxes or fees on emerging Internet technologies are expected.

Good business sense: Industry benefits when it incorporates access.

Avoid expensive and burdensome retrofits: Access should be incorporated during the design & development phases.

Inclusion, not exclusion: Upgrades should not remove accessible services (example: voice recognition technology – avoid a repeat of the “talkies” effect).

Access benefits everyone: Closed captioning, vibrating pagers, and slower IVR recordings benefit people without hearing disabilities.

This summary was prepared as part of the RERC on Telecommunications Access, a joint project of Gallaudet University and the Trace Center, University of Wisconsin-Madison under funding from the National Institute on Disability and Rehabilitation Research (NIDRR) of the US Dept of Education Grant H133E990006. The opinions offered herein are those of the author and do not necessarily represent those of the RERC on Telecommunications Access, the Universities or funding agencies.