

GENERAL SERVICES ADMINISTRATION
Washington, DC 20405

January 30, 1991

FIRMR BULLETIN C-10

TO: Heads of Federal agencies

SUBJECT: Telecommunications accessibility for hearing and speech
impaired individuals

1. Purpose. This bulletin provides guidelines for acquiring products and services that provide telecommunications accessibility for hearing and speech impaired individuals for communication with and within Federal agencies. This bulletin also provides general information regarding responsibilities for accommodating the needs of those with hearing and speech impairments.

2. Expiration date. This bulletin contains information of a continuing nature and will remain in effect until canceled.

3. Contents.

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4. Related material.

- a. FIRMR 201-18.002
- b. FIRMR 201-20.103-7
- c. FIRMR Bulletin C-8

TC 90-1

Attachments

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5. Information and assistance.

a. General inquiries about the contents of this bulletin or information concerning updates should be directed to:

General Services Administration
Regulations and Analysis Division (KMR)
18th and F Streets, NW
Washington, DC 20405
Telephone: (202) 501-3194 or FTS 241-3194 (v).
(202) 501-0657 or FTS 241-0657 (tdd).

b. For technical advice and assistance regarding accommodation strategies for employees with disabilities, contact:

General Services Administration
Clearinghouse on Computer Accommodation
18th and F Streets, NW
Washington, DC 20405
Telephone: (202) 501-4906 or FTS 241-4906 (v/tdd).

c. The FIRS staff may be contacted regarding information on FIRS or the Federal TDD Directory at:

General Services Administration
Federal Information Relay Service (FIRS)
National Capital Region
7th and D Streets, SW
Washington, DC 20407
Telephone: (202) 708-6100 or FTS 458-6100 (v/tdd).

6. Acronyms.

ATBCB	Architectural and Transportation Barriers Compliance Board
COAT	Council on Accessibility Technology
COCA	Clearinghouse on Computer Accommodation
FIRS	Federal Information Relay Service
Pub. L.	Public Law
TDD	Telecommunications Device for the Deaf

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7. Definition.

"Information accessibility" means the application or configuration of FIP resources in a manner that accommodates the functional limitations of individuals with disabilities so as to promote productivity and provide access to work-related or public information resources.

8 Background. The Telecommunications Accessibility Enhancement Act of 1988 (Pub. L. 100-542, 102 Stat. 2721) charged the General Services Administration (GSA) with assuring that the Federal telecommunications system be fully accessible to hearing and speech impaired individuals. Included among the provisions of this law is the requirement that GSA prescribe regulations to help assure such accessibility. In consultation with COAT, GSA has developed these guidelines as well as related regulatory provisions in the FIRMR to comply with this statutory mandate. This bulletin will be revised periodically to keep pace with technological advancements and as dictated by agency compliance with FIRMR policies and procedures.

9 General.

a. Individuals with hearing and speech impairments should be provided access to Federal telecommunications services and facilities. Technological advances, such as the TDD, make this possible. A TDD is a machine that uses typed input and output, usually with a visual text display, to enable individuals with hearing or speech impairments to communicate over a telecommunications network.

b. Technological advances for non-disabled individuals may have an even greater long-term effect on improving telecommunications accessibility for those with hearing and speech impairments. Such advances include electronic mail; facsimile; teleconferencing; LAN-based video imaging; text-based information services and messaging; and remote, real-time transcription/translation capabilities. Many of these services are available to agencies through FTS2000, GSA's long-distance telecommunications service. GSA's TDD relay service will also improve the ability of those with hearing and speech impairments to access Federal agencies. The flexibility inherent in these new telecommunications capabilities makes it possible to accommodate the special requirements of speech and hearing impaired individuals.

10. GSA responsibilities and actions.

a. In accordance with Pub. L. 100-542, GSA is required to:

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(1) Assume responsibility for the operation of the pilot Federal telecommunications relay system operated by the Department of the Treasury and the Architectural and Transportation Barriers Compliance Board (ATBCB). Attachment A contains information on this system.

(2) Assemble, publish, and maintain a directory of TDD and other devices used by Federal agencies and publish access numbers for TDD's and other devices in Federal telephone directories. Attachment B contains information on the Federal TDD Directory.

(3) In consultation with the ATBCB, adopt the design of a standard logo to indicate the presence of TDD equipment in Federal buildings.

(4) Jointly with the FCC, promote research to reduce the cost and improve the capabilities of equipment for providing telecommunications accessibility for those with hearing and speech impairments.

(5) Consider technological improvements in telecommunications accessibility devices when planning future alterations and modifications to the Federal telecommunications system.

b. GSA solicitations for local telecommunications services or equipment will include specifications that require vendors to provide services or equipment to ensure accessibility for hearing and speech impaired individuals.

c. GSA's COCA staff will assist Federal agencies in identifying strategies to accommodate the telecommunications needs of their employees with disabilities.

11 Agency responsibilities. Agencies are responsible for:

a. Assessing telecommunications accessibility for individuals with hearing and speech impairments and developing specifications for solicitations. Attachment C provides guidance on how to fulfill these responsibilities.

b. Publishing access numbers for TDD and TDD-related devices in agency telephone directories and providing such numbers to GSA for inclusion in the Federal TDD Directory in accordance with the procedures in Attachment B of this bulletin.

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c. Displaying in their buildings or offices the standard logo specified by GSA for indicating the presence of TDD or TDD-related equipment. In accordance with the Federal Acquisition Regulation, Part 8, the mandatory source of supply for standard logo signs is UNICOR, Federal Prison Industries, Inc. (FPI). Prior approval from FPI is required before using any other source of supply. Purchase Orders should be submitted to: UNICOR, Federal Prison Industries, Inc. 320 First Street, NW., Washington, DC 20534. (202) 724-8239.

12. Cancellation. FIRMR Bulletin 63 is canceled.

Thomas J. Buckholtz
Commissioner
Information Resources
Management Service

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Attachment A

FEDERAL INFORMATION RELAY SERVICE (FIRS)

1. Background. In 1986, the Federal TDD Relay Exchange Service was initiated as a pilot project of the ATBCB and the Department of the Treasury. Pub. L. 100-542 required that GSA assume responsibility for this pilot relay service. GSA began operation of its own relay system, called FIRS, on March 20, 1989. GSA has since expanded its relay system by adding additional operators and nationwide toll-free (800) service to allow individuals with hearing and speech impairments to communicate with and within the Federal Government.
2. Description of service. FIRS allows communication between hearing and non-hearing individuals through a GSA operator relaying messages between the two parties. The GSA operator uses a computer that is configured to accept incoming TDD calls to converse with hearing or speech impaired individuals and a telephone to converse with hearing individuals. At least one of the individuals whose message is being relayed must be conducting official business of the Federal Government. Hearing individuals may also originate calls over FIRS. The relay's operating hours are from 8 a.m. to 7 p.m. EST, Monday through Friday, except on Federal holidays. The local number for the TDD service is (202) 708-9300 (v/tdd). The nationwide number is (800) 877-8339 (v/tdd).
3. Agency responsibilities. Users of FIRS must assume certain responsibilities in order to assure the most efficient operation of the system. Future revisions of this bulletin and a brochure on the use of FIRS will explain these responsibilities.
4. Information and assistance. Information and assistance regarding the FIRS or how agencies might establish their own TDD relay systems should be addressed to:

General Services Administration
Federal Information Relay Service
National Capital Region
7th and D Streets, SW
Washington, DC 20407
Telephone (202) 708-6100 or FTS 458-6100 (v/tdd).

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FEDERAL TDD DIRECTORY

1. Purpose. The purpose of the Federal TDD directory is to provide a single source where access numbers can be found for all Federal agency TDD and TDD-related equipment.
2. Description. The directory will be published by GSA on a regular basis and will provide Federal agency TDD accessible numbers. It will also provide information on GSA's FIRS and other services provided for hearing and speech impaired individuals.
3. GSA Responsibilities. GSA will maintain and update the TDD directory. The directory will be made available electronically on a regular basis and periodically in paper form.
4. Agency Responsibilities. Agencies must:
 - a. Provide accurate and current TDD numbers to GSA to the address listed below on a regular basis for publishing in the Federal TDD directory. This may be facilitated by establishing an agency contact point for TDD number collection.
 - b. Publish TDD accessible numbers and other appropriate information in agency telephone directories.
5. Information and assistance. Information and assistance on issues dealing with the Federal TDD directory should be addressed to:

General Services Administration
Federal Information Relay Service
National Capital Region
7th and D Streets, SW
Washington, DC 20407
Telephone: (202) 708-6100 or FTS 458-6100 (v/tdd).

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AGENCY TELECOMMUNICATIONS ACCESSIBILITY PLANNING

1. Assessing telecommunications accessibility. Agency managers should be aware of the many different solutions for providing telecommunications accessibility for individuals with speech or hearing impairments. Accommodation needs vary by individual, communication situation, and functional job requirements. Interviews should be conducted with individual employees to identify and accommodate the employee's needs relative to one-on-one communications, telephone usage, travel, meetings, and training. Surveys may also be useful to determine how best to accommodate those with hearing and speech impairments who may need to communicate with the agency. The whole range of telecommunications and computer-based capabilities should be explored as both technologies are playing an increasingly important role as accommodation solutions for individuals in a wide variety of telecommunication situations. Agencies must also follow the applicable policies and procedures of FIRMR paragraphs 201-18.002(c) and 201-20.103-7(c).

2. Accessibility solutions. After a requirements analysis encompassing the needs of speech and hearing impaired individuals has been conducted, agencies should incorporate functional performance specifications into solicitations or take other action to satisfy identified requirements. Following are accessibility solutions that agencies may consider in their planning. GSA local service telecommunications contracts will contain specifications regarding TDD and TDD-related equipment and may also be referred to for guidance in this area.

a. Public information services. Individuals with speech and hearing impairments must be able to access agency information services. In the current environment, this requirement can be met with a TDD accessible telephone line and related end-user equipment (TDD or a microcomputer configured to support TDD access) at each office that has been established to respond to public inquiries. If the TDD number is not a dedicated line, the incoming call sequencing system must be able to acknowledge a TDD call, send a wait message to the caller, and accept the call in sequence. In addition, as agencies develop proposals for improving information services to the public, agency plans should include the telecommunications requirements of persons with speech and hearing impairments. For example, if an automated information service with prerecorded voice messages is being considered, plans must be made for providing the same information in a text messaging mode that would support equivalent

information access by TDD users. This design flexibility would provide for access by hearing impaired individuals and would also benefit hearing individuals who prefer to access information visually through microcomputers rather than voice messages on the telephone. The text mode (electronic bulletin board) should be accessible through a dedicated line unless a single-line configuration is available that can distinguish between a human voice or machine-based inquiry and respond appropriately with audio or text response.

b. Amplification.

(1) A hearing impaired employee will usually know whether telephone amplification is beneficial and what type is most useful. Many hearing aids have a telephone setting that can amplify sound, if an appropriate handset is used. Vendors can provide a handset with the appropriate magnetic field intensity to be compatible with this type of hearing aid setting. Battery powered, portable handset amplifiers are also available for calls made at other phones and on travel. The amplifier can slip over the handset of most telephones. Speech impaired individuals may benefit from telephone handsets that amplify the volume of their voice.

(2) Portable telephone adapters can increase the magnetic field intensity of telephones that do not otherwise emit sufficient magnetic leakage to be picked up by the telephone switch of the hearing aid.

(3) The Hearing Aid Compatibility Act of 1988 (Pub. L. 100-394) requires that, with certain exceptions, all telephones, whether manufactured for use in the United States, or imported, "provide internal means for effective use with hearing aids that are designed to be compatible with telephones which meet established technical standards for hearing aid compatibility."

c. Telecommunications devices for the deaf. For an employee who cannot use an amplified telephone, a TDD will be required to support work-related needs. A TDD permits a hearing or speech impaired person to communicate over a standard telephone with another TDD user or through a relay operator to reach a non-TDD user. A standard microcomputer can be configured to function as a TDD through the addition of special hardware and software that supports Baudot, the code used by most TDD's. Enhancing a microcomputer to serve a TDD function is becoming a

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viable option. A computer-based solution should reflect a user's requirements and allow call announcement and pick-up without exiting other microcomputer application programs. Although still in wide use, TDDs that support Baudot only are considered obsolete technology.

d. TDD relay service. An agency with a large number of hearing or speech impaired employees or clients may elect to establish a TDD relay system for the agency's own use. A TDD relay system is a service which utilizes hearing operators to transmit TDD messages from hearing impaired individuals to hearing individuals. The GSA FIRS staff can provide advice on how to establish such a system.

e. Signalling devices. The sounds in the individual's work area that should be translated into non-auditory signals must be determined. Signalling devices can be installed that provide visual signals and/or vibrations to supplement the auditory signals of different sounds in a room, such as a telephone ringing, equipment malfunctioning, or a computer beeping a warning message. For some individuals, tone ringer devices that convert the ring of telephones into a frequency range more easily heard are beneficial. Paging capabilities provide a flexible means for sending text messages to a hearing impaired individual.

f. Electronic mail. Electronic mail presents no barrier to communication by speech impaired or hearing impaired individuals because it is a visual process only. Electronic mail systems should include a feature that provides an auditory and visual signal to announce an incoming call and the option for interactive conversation mode or messaging mode if the receiving party isn't available.

g. Voice mail. Voice mail may be a useful option for a TDD user who is able to speak. Spoken messages could be sent independent of a relay operator. Repeated telephone calls to reach a party are eliminated because such a system typically continues to place the call until the message is received. A voice mail message would be relayed to the hearing impaired individual in a manner similar to the way telephone messages are usually handled.

h. Facsimile. Sending hard copy documents or handwritten notes through a facsimile machine also provides a valuable

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alternative to telephone messaging for some communications situations. Facsimile (commonly referred to as fax) is the electronic transmission of letters and pictures over regular telephone lines. Fax systems should provide line status information in a visual manner (either text display or status lights) for feedback to individuals not able to benefit from auditory status information due to hearing loss or a noisy environment. A microcomputer card option may be a viable alternative to a stand-alone fax machine for individuals that usually need to transmit data that has been generated on a computer. A combination fax machine/telephone may also be an alternative to a stand-alone fax machine.

i. On-site and remote interpreter services. Professional sign language interpreters are available on a contractual basis to accommodate hearing impaired people who communicate using American Sign Language. Hearing impaired individuals and their supervisors should develop a plan to ensure that interpreter services are available when necessary. Currently, interpreters are required to be on-site when interpreting at meetings, conferences, and courses. The emergence of video-phones, teleconferencing and LAN-based video imaging capabilities may provide opportunities for more comprehensive and cost-effective remote interpreting services. This will be achieved when agencies are able to purchase commercially available teleconferencing equipment that supports the minimum scan rate necessary to transmit sign language.

j. Augmentative communication devices. Some individuals with speech impairments use augmentative communication devices. These devices are typically computer-based, portable, and include a speech output capability. Depending upon the individual's work-related requirements, a second communication device might be used with a recorded message to respond to incoming calls and alert the caller that a computer-based synthesized voice will be used during the conversation.

3. Information and assistance. Information and assistance requests dealing with telecommunications accessibility for hearing and speech impaired individuals should be addressed to:

General Services Administration
Clearinghouse on Computer Accommodation
18th and F Streets, NW
Washington, DC 20405
Telephone: (202) 501-4906 or FTS 241-4906 (v/tdd).

