



Americans with Disabilities Act: ACCESS FOR 9-1-1 AND TELEPHONE EMERGENCY SERVICES

I. Introduction

Dialing 9-1-1 is the most familiar and effective way Americans have of finding help in an emergency. The Americans with Disabilities Act (ADA) requires all Public Safety Answering Points (PSAPs) to provide direct, equal access to their services for people with disabilities who use teletypewriters (TTYs), which are also known as “telecommunications devices for the deaf (TDDs).”

This document is part of a technical assistance program to provide State and local governments and persons with disabilities with information about the requirements of the ADA for direct, equal access to 9-1-1 for persons with disabilities who use TTYs. This guidance is an updated version of the Department of Justice’s earlier guidance entitled, “Commonly Asked Questions Regarding Telephone Emergency Services.” It explains in practical terms how the ADA’s requirements apply to 9-1-1 services, including equipment, standard operating procedures, and training, and should be useful to 9-1-1 service providers, equipment vendors, participating telephone companies, and individuals with disabilities.

Different emergency providers may have different capabilities and features. For instance, some larger providers have “Enhanced 9-1-1” or “E9-1-1,” which automatically identifies for 9-1-1 call takers the telephone number and/or address of callers. Some providers have call distribution systems, which place incoming calls in a queue and distribute them to the next available call taker. Other, smaller providers, may not have these capabilities. This guidance can be useful to all types of telephone emergency providers, both small and large.

A. ADA Coverage of Telephone Emergency Services

Title II of the ADA covers telephone emergency service providers and other State and local government entities and instrumentalities. The Department’s regulation is published at 28 C.F.R. Part 35. To obtain a copy of the ADA or its implementing regulations, or if you have questions about the ADA, contact the Department of Justice ADA Information Line at (800) 514-0301 (voice), or (800) 514-0383 (TTY), or access the Department’s ADA Home Page on the World Wide Web at <http://www.usdoj.gov/crt/ada/adahom1.htm>.

Q: What types of telephone emergency services are covered by Title II of the ADA?

A: The phrase “telephone emergency services” applies to basic emergency services -- police, fire, and ambulance -- that are provided by public safety agencies, including 9-1-1 (or, in some cases, seven-digit) systems. Direct, equal access must be provided to all services included in the system, including services such as emergency poison control information.

Q: In areas without 9-1-1 services, are PSAPs still required to provide access for TTY users to the telephone emergency services?

A: Yes. Where 9-1-1 is not available and a PSAP provides emergency services via a seven-digit number, it still must provide direct, equal access to TTY callers. It may do so either by having one line for both voice and TTY calls, or it may provide two separate lines -- one for voice calls, and another for TTY calls. Requiring TTY callers to call a separate seven-digit number is not allowed in areas where 9-1-1 is offered, because having to dial a seven-digit number is not equal to the ease of having to dial the simple, familiar 9-1-1.

As with 9-1-1, services for TTY calls on seven-digit numbers must be as effective as those offered for voice calls in terms of time of response, hours of operation, and other features. Also, PSAPs must ensure that TTY numbers are publicized as effectively as voice numbers and displayed as prominently as voice numbers wherever telephone emergency numbers are listed.

Separate Telephone Lines for TTY Users

Q: Can a PSAP dedicate a separate seven-digit line for TTY calls?

A: Yes, but TTY users must also have direct, equal access to all call-taking positions on 9-1-1 lines. A PSAP cannot require TTY users to call a seven-digit number when voice callers may dial the more familiar 9-1-1.

B. TTYs & Telephone Relay Services

A TTY is a device that is used in conjunction with a telephone to communicate with persons who are deaf, who are hard of hearing, or who have speech impairments, by typing and reading text. To communicate by TTY, a person types his or her conversation, which is read on a TTY display by the person who receives the call. Both parties must have TTYs to communicate. When typing on a TTY, each letter is transmitted by an electronic code called Baudot, which is sent from the TTY on the sending end of the call through the telephone line in the form of tones to the TTY on the receiving end of the call, the same way voiced communications occur between two parties. The receiving TTY transforms the tones back to letters on a small display screen.

Communication between two persons using standard TTYs can only occur in one direction at a time. Thus, both persons who are conversing cannot type to each other at the same time; they must take turns sending and receiving. A person sending a communication by TTY indicates that he or she has finished transmitting by typing the letters “GA,” which stand for “go ahead.”

A person can also use a computer with a TTY modem and related software to communicate with someone who has a TTY or who has a computer with TTY software and a modem. Computers generally operate in American Standard Code for Information Interexchange (ASCII), an electronic “language.” A person who uses ASCII must use an ASCII/Baudot modem and related software to convert the ASCII code into Baudot code, in order to communicate with another person who is using a Baudot-based system. Similarly, a person who is using a Baudot-based TTY must utilize conversion software to communicate with a person using an ASCII-based computer.

Telephone relay services are provided by States, as required by Title IV of the ADA, and are regulated by the Federal Communications Commission. Relay services involve a communications assistant who uses both a standard telephone and a TTY to type voice communication to a TTY user and read a TTY user’s typed communication to a voice telephone user. Telephone relay services are not as effective for emergencies, because they are far more time-consuming than calls between two TTYs.

Q: Does Title II require that telephone emergency service systems be compatible with all codes used for TTY communications?

A: No. At present, telephone emergency services must only be compatible with the Baudot format. Until it can be technically proven that communications in another format can operate in a reliable and compatible manner in a given telephone emergency environment, a State or local government agency is not required to provide direct access to computer modems using formats other than Baudot.

Q: Can PSAPs rely on State relay services to answer emergency calls from persons who are deaf, hard of hearing, or who have speech impairments?

A: No. The Title II regulation specifically prohibits emergency telephone service providers from relying on relay services. Relay services do not provide “direct access,” because they require the services of a third party and are far more time-consuming than direct TTY calls. However, if a person placing a call to a PSAP voluntarily chooses to rely on a telephone relay service, the PSAP must answer and respond appropriately to such a call.

II. Direct, Equal TTY Access

A. General Requirements for Telephone Emergency Service Providers

The ADA regulation requires 9-1-1 or other telephone emergency service providers to provide TTY users with:

- direct access; and
- an opportunity to benefit from the emergency services that is equal to the opportunity afforded others.

Direct access means that PSAPs can directly receive TTY calls without relying on an outside relay service or third-party services.

Equal access means that the telephone emergency services provided for TTY users are as effective as those provided for persons who make voice calls, in terms of:

- response time;
- response quality;
- hours of operation; and
- all other features offered (e.g., automatic number identification, automatic location identification, automatic call distribution).

Direct, equal access requires PSAPs to have the appropriate equipment to communicate with people who use TTYs. It also requires them to use the proper procedures and practices when TTY calls are received.

B. Equipment

Number of TTYs

In order to afford equal access to TTY users, every call-taking position within a PSAP must have its own TTY or TTY-compatible equipment. PSAPs must have systems that enable call takers to handle TTY calls as properly, promptly, and reliably as voice calls. Every call-taking position needs its own TTY equipment because experience has shown that:

- With TTY or TTY-compatible equipment at each call-taking position, call takers can handle TTY calls as effectively as voice calls.
- Call takers at PSAPs that had only one TTY per center had significant difficulties handling TTY calls within their standard answering time.
- Sharing a TTY among several call takers may result in undue delay in obtaining the TTY and connecting it to the answering position.
- Transferring a TTY call from a non-TTY-capable answering position to a TTY-dedicated position may result in the call being disconnected or undue delay in answering the call. In some cases, transfers may result in the loss of enhanced features, such as automatic number identification and automatic location identification information.
- Each call taker needs to query every silent, open line call as a potential TTY call, as described in Section D, below. Because most PSAPs receive many silent, open line calls, often more than one at a time, each call taker must have his or her own TTY equipment to be able to query all of those calls with a TTY.

Thus, PSAPs may not provide TTY equipment at only a limited number of positions, such as, at only a supervisor's position, or at only one dedicated call taker's line. PSAPs must have systems that respond to TTY calls as promptly and reliably as they respond to voice calls.

Call takers cannot be required to transfer TTY calls to specific phone lines or locations, unless voice calls are also transferred under the same circumstances. Transfers consume critical time, greatly increase the risk that the call will be disconnected, and may result in the loss of enhanced features, such as automatic number identification and automatic location identification information.

People other than “dedicated” call takers often act as call takers and therefore must have their own TTY equipment. For instance, dispatchers will often take overflow emergency calls when all dedicated call takers are busy, and supervisors may take calls on occasion. Every person who takes emergency calls from the public under any circumstances must have their own TTY equipment for the same reasons that dedicated call takers must have their own TTY equipment.

Q: If a PSAP has only received a few TTY calls per month over the past year, why does it need TTYs at every call-taking position?

A: Most PSAPs receive many silent open line calls, which may be TTY calls. In order for call takers to know if silent calls are TTY calls, each call taker will need TTY equipment to query every silent call with a TTY. It is possible that call takers have been receiving more than a few TTY calls per month, but have treated them as silent lines or hang-ups rather than TTY calls. This is likely if the call takers have not been querying all silent lines with TTYs. Some of those silent lines or hang-ups may have been TTY users waiting for a TTY response.

Historically, many persons who use TTYs have not had confidence in the accessibility of 9-1-1 services and have not attempted to make direct TTY calls to their PSAP. The number of TTY calls each PSAP receives is likely to increase in the future, as PSAPs become more accessible to TTY users, and as TTY users learn of PSAPs’ improved accessibility.

Q: If a PSAP complies with a State law, which requires only one TTY per PSAP, is that PSAP also in compliance with the ADA?

A: No. Satisfying State law requirements does not mean that a PSAP is also in compliance with the ADA. Some State laws require only one TTY per PSAP. The ADA, however, requires direct, equal access, which means that PSAPs must have enough TTY equipment so that each call-taking position has its own TTY capability. Also, if a PSAP has extra voice telephone equipment in case of malfunction, which most do, the ADA would also require them to have back-up TTY equipment. Therefore, under the ADA, virtually all PSAPs must have two or more TTYs.

Enhanced Features

Many PSAPs have advanced features that facilitate prompt responses to callers. Many PSAPs have, for example, automatic number identification (ANI) and automatic location identification (ALI), which tell the call taker the phone number and address from which a call originates. PSAPs that have these features must ensure that TTY calls have the same access to enhanced features as do voice telephone calls. TTY calls may not be required to be transferred to a third line, because those transfers often result in the loss of the automatic phone number and address

information. Another feature employed by PSAPs is automatic call distribution (ACD), which places incoming calls into a queue, sends out a programmed message to callers to let them know that their calls have been received, and distributes calls to the next available call taker. This feature, if offered, must also be made accessible for TTY calls, with a programmed TTY message.

Relationship Between Primary and Secondary PSAPs

Primary PSAPs (9-1-1 answering points) often transfer calls to secondary PSAPs (such as fire or emergency medical services) if they do not dispatch those services directly from the primary PSAP. In those transfer situations, PSAPs must correctly transfer TTY calls, as they do voice calls. Secondary PSAPs have the same responsibilities under the ADA as do primary PSAPs, and they must be able to receive transferred TTY calls as efficiently and as effectively as voice calls.

C. Other Requirements for TTY Equipment

Maintenance and Back-Up

The ADA regulation contains a specific provision requiring that covered entities maintain their accessibility features and equipment in operable working condition. In addition to this specific maintenance requirement, the ADA's equal access requirement obligates PSAPs to implement equally effective procedures for maintenance and back-up capability for TTY equipment as they provide for voice telephone equipment.

For example:

- TTY equipment must be maintained and tested at least as often as voice telephone equipment, to ensure that the equipment is operating properly. If PSAPs check their voice telephone equipment every day to make sure it is working, they must do so every day for TTY equipment. Similarly, if PSAPs have contracts with outside companies for maintenance of their voice telephone equipment, they must employ equally effective methods for TTY equipment.
- Most PSAPs have plans for using back-up equipment in case some of its equipment or telephone lines malfunction, or in case there is a power failure. If a PSAP has such a plan for voice calls and equipment, it must provide for TTY calls and equipment in that plan. For instance, PSAPs should keep extra TTY equipment on hand, in case the primary equipment fails, if they have back-up voice telephone equipment for such a situation.

Switching Between Voice and TTY Modes

All call takers must have the capability to switch back and forth easily from TTY mode to voice mode during the same call. This capability is necessary especially for silent calls, since call takers are required to first query the line by voice and then quickly switch to query the line by TTY. This capability is also necessary for VCO and HCO, which are described below.

VCO and HCO shorten the lengths of calls that would otherwise be conducted exclusively by typing. Call takers who use stand-alone TTYs can switch from TTY mode back to voice mode simply by removing the telephone handset from the TTY couplers. TTY-compatible consoles for call takers should have built-in switching capability.

Q: What is VCO? Who uses it?

A: VCO is voice carryover. It is a communication hybrid of TTY and voice. VCO allows a person with hearing loss to speak directly to the call taker and read the response that is typed back. Many persons who became deaf or hard of hearing later in life prefer to speak instead of type. They use what is called voice carryover (VCO). With VCO, the caller speaks directly into the phone, and the call taker types back via TTY to the caller. VCO can be accomplished with standard stand-alone TTY equipment simply by having the call taker alternate between listening on the handset when the caller is speaking and placing the handset in the TTY couplers to type a response.

Q: What is HCO? Who uses it?

A: HCO is hearing carryover. People with speech impairments who are not deaf or hard of hearing often prefer HCO. HCO allows them to type their words on a TTY to call takers and hear call takers' spoken responses through their handset. HCO can be accomplished by a call taker using standard stand-alone TTY equipment by alternating speaking into the handset and placing the handset in the TTY when the caller types a response.

D. Procedures for Handling TTY Calls

In addition to proper equipment, direct, equal access for TTY calls requires that PSAPs use effective procedures for recognizing and responding to TTY calls.

Recognizing TTY Calls/Treating Silent, Open Lines as Potential TTY Calls

All call takers must be able to recognize and handle TTY calls properly. There are three types of TTY calls a call taker may receive. Some TTYs emit a recorded spoken announcement to the call taker that a TTY call is being placed, such as "HEARING IMPAIRED CALLER. USE TTY." Other times, TTY callers may press TTY keys to emit audible tones and more quickly notify the call taker that a TTY call is being placed. Most often, however, a person using a TTY will make a call that is perceived by the call taker as a silent, open line call. This is because the caller's equipment does not recognize that the call has been answered until the call taker sends a TTY response.

The only way for PSAPs to properly identify all TTY calls is for call takers to recognize TTY tones and to query every silent, open line call with a TTY to determine if it is a TTY call after it has been queried by voice.

Requiring Callers Using TTYs to Press a Key

In the past, some PSAPs have required callers using TTYs to press the space bar or other keys after they call, to emit tones and notify call takers that it is a TTY call. This requirement violates the ADA. Requiring TTY callers to press keys repeatedly until recognized is unfamiliar to most TTY callers, and callers cannot be relied upon to perform such unfamiliar tasks, especially in emergency situations. Further, in many emergency situations there may not be time or opportunity to press keys repeatedly until recognized.

ILLUSTRATION: A 9-1-1 call taker answers a call, responds with a standard spoken greeting, and expects to hear a spoken response. If the call taker receives a silent, open line, the call taker should query the line verbally a second time, and then query the line using a TTY to determine if the call is from a TTY user.

TTY Detection Equipment

Q: If a PSAP uses TTY detection equipment, does it still have to query every silent call with a TTY?

A: Yes. Some PSAPs have installed equipment that detects TTY calls and produces a voice announcement to the call taker that a TTY call has come in. TTY detection equipment, however, only recognizes TTY calls that transmit tones, such as when callers press keys to emit tones. This equipment will not recognize TTY calls when the caller does not emit tones and instead waits for a TTY response before transmitting. Thus, TTY detection equipment does not eliminate the need for call takers to query every silent line with a TTY.

Dispatching Police to Origin of Silent Calls

It is not sufficient merely to dispatch police to the origins of all silent, open lines, in lieu of querying the lines with a TTY. Precious time may be lost by sending the police if the caller needs another type of response, such as fire or emergency medical services. All silent, open lines must be queried with a TTY to assess the basis for the call and to dispatch the appropriate emergency equipment and personnel.

Conducting TTY Calls

After TTY calls are recognized, call takers must effectively communicate with callers during the calls. Effective communication by TTY will require call takers to be familiar with the use of TTY equipment and TTY protocols.

E. Training

PSAPs must train their call takers to effectively recognize and process TTY calls. Call takers must be trained in the use of TTY equipment and supplied with information about communication protocol with individuals who are deaf or hard of hearing, or who have speech impairments. For instance, callers who use American Sign Language use a syntax that is different from spoken English. In addition, in TTY communication, certain accepted abbreviations are frequently used. A list of some of those abbreviations is attached to this document.

The ADA does not specify how call takers must be trained, but the Department believes that the following are essential to proper training:

- Training should be mandatory for all personnel who may have contact with individuals from the public who are deaf, hard of hearing, or who have speech impairments.
- PSAPs should require or offer refresher training at least as often as they require or offer training for voice calls, but at a minimum, every six months.

Comprehensive training should include:

- Information about the requirements of the ADA and Section 504 of the Rehabilitation Act for telephone emergency service providers;
- Information about communication issues regarding individuals who are deaf or hard of hearing, or who have speech impairments, including information about American Sign Language;
- Practical instruction on identifying and processing TTY calls, including the importance of recognizing silent TTY calls, using proper syntax, abbreviations, and protocol when responding to TTY calls and relayed calls; and
- Hands-on experience in TTY communications, especially for new call takers, as part of their initial training orientation.

To ensure the effectiveness of training, PSAPs may want to consult the Emergency Access Self-Evaluation program, published as a manual by Telecommunications for the Deaf, Inc., under a Department of Justice grant. The EASE manual, which was reviewed by the Department, can be obtained for a fee by calling TDI at (301) 589-3786 (voice), (301) 589-3006 (TTY), or (301) 589-3797 (FAX).

F. Testing

The Department believes that frequent testing is essential to ensure direct, equal access. Testing call takers and their equipment is also the one of the most effective ways to ensure compliance with the ADA's requirement that accessibility features are maintained in operable working condition. The ADA does not specify how testing is to be conducted. We believe, however, that PSAPs should conduct an internal testing program in which they conduct random

TTY test calls of each call-taking position. The tests should be designed to ascertain whether TTY equipment functions properly and whether personnel have been adequately trained to recognize TTY calls quickly, to operate TTY equipment, and to conduct TTY conversations. The Department recommends the following for an effective testing program:

- To test whether call takers have been trained adequately to recognize TTY calls, a PSAP should conduct two types of test calls--silent, open line calls in which no tones are emitted and calls in which the caller introduces the call by transmitting TTY tones. Tests should be unannounced.
- It is best for PSAPs to keep records of the results of all test calls, including, at a minimum: the date and time of each test call; identification of the call taker and call-taking position; whether each call was silent or transmitted tones; whether the caller received a TTY response and the content of the TTY response; the time elapsed and number of rings from the initiation of the TTY call until the call taker responded by TTY; and whether the call was processed according to the PSAP's standard operating procedures. The testing program should cover each call taker and each position.

Some Helpful TTY Abbreviations

ASAP As soon as possible	R Are
CD or CLD Could	SHD Should
GA Go ahead, your turn to talk	SKSK Stop Keying, means end of conversation
GA or SK Go ahead or Goodbye	TMW Tomorrow
HCO (Hearing Carry Over) TTY user will use his/her hearing during call	TTY Teletypewriter
HD or HLD Hold, Please	U You
MSG Message	UR Your
NBR or NU Number	VCO (Voice Carry Over) TTY user will use his/her voice during the call
PLS Please	XXXX Error, Erase
Q or QQ Question mark	

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- Braille
- Large print
- Audiocassette
- Electronic file on computer disk and
- electronic bulletin board, (202) 514-6193

To obtain these documents in alternate formats, call the Department of Justice ADA Information Line, (800) 514-0301 (voice), (800) 514-0383 (TDD). To obtain this document on the World Wide Web, go to the Department's ADA Home Page at www.usdoj.gov/crt/ada/adahom1.htm.

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