

# NENA TTY/TDD Communications Standard Operating Procedure Model Recommendation

**Abstract:** This document provides a model recommendation to establish guidelines for the operation of the equipment and call handling procedures used to provide access for persons with speech or hearing impairment



NENA TTY/TDD Communications Standard Operating Procedure Model Recommendation  
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## 1 Executive Overview

This document has been developed to serve as a model standard operating procedure for handling Teletypewriter / Telecommunications Device for the Deaf (TTY/TDD) communication within Public Safety Answering Points (PSAPs). To provide uniformity and consistency in the handling of these calls, the AHJ shall ensure that policy and procedures include the following subject areas:

- Telecommunicator training
- Identification of TTY/TDD calls
- TTY/TDD equipment and operation
- Testing
- Call handling process

In addition, this document provides a description of the variations in communicating with the hearing and speech impaired, such as the acoustic coupler mode, Voice Carry Over, Hearing Carry Over and Relay Service Calls.

The purpose of this document is to provide a model recommendation in the form of a standard operating procedure to establish guidelines for the operation of the equipment used and call handling procedures used to provide access for persons with speech or hearing impairment.

This document serves as a Model Standard Operating Procedure for the handling of TTY/TDD 9-1-1 calls to Public Safety Answering Points.

Use of this Model Standard Operating Procedure will standardize the method of TTY/TDD 9-1-1 call handling across jurisdictional boundaries. This will:

- Provide consistency in call handling of TTY/TDD calls
- Improve service to TTY/TDD callers

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These definitions are based on IETF [RFC 2119](http://www.rfc-editor.org/rfc/rfc2119).

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## Reason for Issue/Reissue

NENA reserves the right to modify this document. Upon revision, the reason(s) will be provided in the table below.

Document Number	Approval Date	Reason For Issue/Reissue
NENA 56-004	06/25/2005	Initial Document
NENA 56-004.1	06/25/2015	Update webpage links
NENA-STA-037.2-2018	08/17/2018	Non-substantive and scrivener edits made for clarity during periodic review.

## **2 Guidelines for TTD/TTY 9-1-1 Communication**

### **2.1 Purpose**

The purpose of this standard operating procedure is to establish guidelines for the operation of the equipment used and call handling procedures used to provide access for persons with hearing or speech impairment.

### **2.2 Discussion**

The Americans with Disabilities Act (ADA) [2] is federal legislation that every PSAP manager is responsible for understanding and implementing in their communications centers. [3] The United States Congress enacted it on July 26, 1990. Its purpose is "to provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities; to provide clear, strong, consistent, enforceable standards addressing discrimination against individuals with disabilities; to ensure that the Federal Government plays a central role in enforcing the standards established in the Act on behalf of individuals with disabilities; and to invoke the sweep of congressional authority, including the power to enforce the Fourteenth Amendment to regulate commerce, in order to address the major areas of discrimination faced day-by-day by people with disabilities." In this regard, Title II of the ADA [2] mandates access to public services such as telephone emergency services.

It is estimated that approximately 54 million Americans have one or more physical or mental disability. Approximately 38 million are individuals who have hearing impairment.

According to Title II of the ADA, "Telephone Emergency Services, including 9-1-1 services, shall provide direct access to people who use TDDs...". The (insert your department here) 9-1-1 Communications Center recognizes the importance of providing direct access to its services to citizens who use TTY/TDDs that are living in, visiting and traveling through this jurisdiction.

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**The following text has been written in a manner which supports the AHJ/PSAP being able to incorporate some or all of the text into their local SOPs.**

### **2.3 Policy**

It shall be the policy of the (insert department name here) 9-1-1 Communications Center to provide telephone emergency services to individuals with disabilities that are as effective as those provided to others. In accordance with the requirements of Title II of the Americans with Disabilities Act, the (insert department name here) 9-1-1 Communications Center will not discriminate on the basis of disability in our services, programs, or activities. Individuals who use telecommunications devices for the deaf, also known as TTY/TDDs, will be provided direct access to our telephone emergency services, including 9-1-1 services.

## **3 Administrative Procedures**

### **3.1 Telecommunicator Training**

All telecommunicators shall receive training in accordance with APCO/NENA Minimum Training Standard for TDD/TTY Use in the Public Safety Communications Center [4] and Recommended Minimum Telecommunicator Training Guidelines [5].



### **3.2 TTY/TTD Equipment and Operation**

- 3.2.1 The (insert department name here) 9-1-1 Communications Center shall be equipped with one TTY/TDD located at each emergency answering position (one per telephone location).
- 3.2.2 At a minimum, every TTY/TTD shall be preprogrammed with both the Standard English and American Sign Language (ASL) messages contained in Exhibit A.
- 3.2.3 Procedures for activation of these messages shall be posted at all TTY/TDDs.
- 3.2.4 In the event a TTY/TDD malfunctions, the telecommunicator should use a backup device located (specify such as on the Supervisor's console). Any equipment malfunctions must be brought to the attention of the 9-1-1 Coordinator for repair or replacement.
- 3.2.5 In the event of a power failure, the TTY/TDD equipment shall operate on uninterruptible power supply or by using the department's power failure contingency plan. Measures shall be taken to ensure that the TTY/TDD remains functional throughout the power failure.

### **3.3 Testing**

- 3.3.1 TTY/TDD equipment shall be tested in accordance with the NENA Managers Guide to the ADA Title II [3] all and that testing shall be documented. Documentation shall include:
  - 3.3.2 Name & Title of employee conducting the test call
  - 3.3.3 Date & Time
  - 3.3.4 Silent Call and/or beeping tones
  - 3.3.5 Time required to establish contact
  - 3.3.6 Initiated from internal (inside center) or external (from field) location
  - 3.3.7 Format of Call (English vs. American Sign Language)
  - 3.3.8 Copies of TTY/TDD printout shall be attached to documentation as evidence of the testing procedure.

## **4 TTY/TDD Call Handling Process**

### **4.1 Identification of Incoming TTY/TDD Calls.**

- 4.1.1 Telecommunicators should be aware that TTY/TDD users may be deaf, deaf-blind, hard-of-hearing, speech impaired or other persons.
- 4.1.2 When initially answering the emergency calls, telecommunicators shall follow the established phone answering procedures. However, if the telecommunicator is unable to immediately (within two attempts by voice) establish voice communications, but determines the line is silent (or open), or the telecommunicator hears beeping tones, they should immediately initiate a TTY/TDD call response.
- 4.1.3 Likewise, when a telecommunicator hears a voice recording that advises with a message that this is a TTY/TDD call, the telecommunicator should immediately respond by initiating a TTY/TDD call response.
- 4.1.4 Automatic call detection equipment will only detect when TTY/TDD tones are present.
- 4.1.5 Accordingly, all silent calls should be challenged with a TTY/TDD.

### **4.2 Initiating a Response to an Incoming TTY/TDD Call.**

- 4.2.1 Direct Connect Mode or Integrated System
  - 4.2.1.1 When initiating a response with a TTY/TDD which is directly connected to a phone line or integrated in computer-based system, the telecommunicator should respond by turning on the TTY/TDD (direct connect) or opening the TTY/TDD screen, and send a preprogrammed message or type an approved greeting such as 911 GA.
  - 4.2.1.2 The telecommunicator should then handle the call in accordance with established procedures for that call type.
- 4.2.2 Acoustic Coupler Mode
  - 4.2.2.1 When initiating a response with at TTY/TDD that is not directly connected to a phone line, the telecommunicator should respond by placing the handset in the acoustic coupler (rubber cups on top of TTY/TDD) making sure that the handset is positioned correctly (typically with the cord to the left of the equipment). It may be

helpful to label the couplers “mouthpiece” and “earpiece” in advance to expedite this process.

- 4.2.2.2 The telecommunicator should then turn the TTY/TDD power button on and send the preprogrammed greeting.
- 4.2.2.3 Once the TTY/TDD caller responds, the telecommunicator should continue to follow the procedures for handling the call in accordance with established procedures for that call type.
- 4.2.3 Voice Carry Over (VCO) / Hearing Carry Over (HCO) Mode - Telecommunicators must be prepared to handle calls received via the TTY/TDD in which the caller requests communications to be in either the VCO or HCO format.

#### 4.2.3.1 Voice Carry Over

4.2.3.1.1 VCO is an acronym representing when a TTY/TDD caller uses their own voice to speak with the telecommunicator rather than type. The caller reads the reply from the telecommunicator on the TTY/TDD screen.

4.2.3.1.2 When a caller requests this format for their communications, the telecommunicator must listen to the caller speak, but then use the TTY/TDD to respond.

4.2.3.1.3 This method requires the telecommunicator to switch from voice to TTY mode on a single call.

#### 4.2.3.2 Hearing Carry Over

4.2.3.2.1 HCO is an acronym for Hearing Carry Over when a TTY/TDD caller will listen with a telephone receiver rather than read the message. The caller types their side of the conversation.

4.2.3.2.2 When a caller requests this format for their communications, the telecommunicator must use the TTY/TDD to receive the caller's message but should speak to the caller instead of typing.

4.2.3.2.3 This method requires the telecommunicator to switch from TTY to voice mode on a single call.

#### 4.2.4 Relay Service Calls

4.2.4.1 On occasion, a TTY/TDD caller may contact our services through the use of a Telecommunications Relay Service (TRS). PSAPs are prohibited from requiring callers go through a third party (such as the TRS) to gain access to our services, however, if telecommunicators receive a call via a TRS it should be handled according to established procedures for that call type.

4.2.4.2 Telecommunicators should follow the established protocol of the TRS by speaking to the relay operator as if speaking to the caller directly (communicating in first person) and the relay operator will type exactly what the telecommunicator speaks.

4.2.4.3 Prior to disconnecting from the TRS operator, advise the caller that they may contact our department directly in the future by dialing 9-1-1.

### 4.3 Disconnected Calls

- 4.3.1 If, during the course of receiving an emergency call the call is disconnected, the telecommunicator shall implement established call-back procedures.

*Comment: If the telecommunicator has already established contact with the TTY/TDD caller but loses the connection, the telecommunicator shall immediately request that emergency services be dispatched to the location (if they have not already) and shall attempt to call the TTY/TDD caller back by using the TTY/TDD equipment.*

**4.4 TTY/TDD Etiquette** - Telecommunicators shall use proper TTY/TDD etiquette/protocol while communicating using a TTY/TDD. Proper etiquette or protocol is as follows:

- 4.4.1 It is extremely important to type the term GA when you are through with your statement and want a response from the person on the other end of the line. The term GA means go ahead, it's your turn to talk.
- 4.4.2 Tone of voice is not transmitted on a TTY/TDD, so it is necessary to type the letter Q (or QQ) when asking a question (plus GA to request a response).
- 4.4.3 When getting ready to end the conversation, a caller may type GASK, which means I am through, do you have anything else to say?
- 4.4.4 SKSK means, bye, I am hanging up now. Telecommunicators shall stay on the line with the TTY/TDD caller as long as it is safe for the caller to do so. If it becomes unsafe for the caller to stay on the line ask them to lay the receiver down and exit the area/building.

## **5 NENA Registry System (NRS) Considerations**

Not Applicable

## **6 Documentation Required for the Development of a NENA XML Schema**

Not Applicable

## **7 Impacts, Considerations, Abbreviations, Terms, and Definitions**

### **7.1 Operations Impacts Summary**

This document serves as a Model Standard Operating Procedure for the handling of TTY/TDD 9-1-1 calls to Public Safety Answering Points. The use of this document will ensure the AHJ/PSAP adheres to ADA Title II requirements.

## **7.2 Technical Impacts Summary**

Not Applicable

## **7.3 Security Impacts Summary**

Not Applicable

## **7.4 Recommendation for Additional Development Work**

No.

## **7.5 Anticipated Timeline**

Not Applicable

## **7.6 Cost Factors**

The cost factors will be limited to the degree that upgrades or changes are required to provide a TTY/TDD communication device at each phone location at the PSAP. The type of device selected (direct-connect, computer-based, acoustic coupler, etc.) will determine total cost.

## **7.7 Cost Recovery Considerations**

Cost recovery will be dependent upon legislative and regulatory cost recovery mechanisms for compliance with ADA requirements in each state.

## **7.8 Additional Impacts (non-cost related)**

The information or requirements contained in this NENA document are not expected to have 9-1-1 Center operations impacts, based on the analysis of the authoring group.

## 7.9 Abbreviations, Terms, and Definitions

See NENA Master Glossary of 9-1-1 Terminology, NENA-ADM-000 [1], for a complete listing of terms used in NENA documents. All abbreviations used in this document are listed below, along with any new or updated terms and definitions.

Term or Abbreviation (Expansion)	Definition / Description
ADA (Americans with Disabilities Act)	<p>Federal Legislation passed into law July 26, 1990, that prohibits discrimination on the basis of disabilities.</p> <p>The Americans with Disabilities Act (ADA) is a landmark civil rights law that both identifies and prohibits discrimination on the basis of disability in employment, state and local government, public accommodations, commercial facilities, transportation, and telecommunications. This Act requires all Public Safety Answering Points (PSAPs) to provide direct and equal access to emergency telephone services for people with disabilities who use teletypewriters (TTY/TDDs), which are also known as telecommunications devices for the deaf. This means that the personnel answering calls at the PSAP level must be able to directly receive TTY/TDD calls and must be able to engage in TTY/TDD conversation.</p>
HCO (Hearing Carry Over)	<p>A method which utilizes both voice and text communications on the same call, allowing a person who has a speech disability to listen to the other party's conversation and respond by typing via a TTY or other means of text communications.</p>

<p>PSAP (Public Safety Answering Point)</p>	<p>An entity responsible for receiving 9-1-1 calls and processing those calls according to a specific operational policy.</p> <p><b>Variations:</b></p> <p><b>Primary PSAP:</b> A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office.</p> <p><b>Secondary PSAP:</b> A PSAP to which 9-1-1 calls are transferred from a Primary PSAP.</p> <p><b>Alternate PSAP:</b> A PSAP designated to receive calls when the primary PSAP is unable to do so.</p> <p><b>Consolidated PSAP:</b> A facility where one or more Public Safety Agencies choose to operate as a single 9-1-1 entity.</p> <p><b>Legacy PSAP:</b> A PSAP that cannot process calls received via i3-defined call interfaces (IP-based calls) and still requires the use of CAMA or ISDN trunk technology for delivery of 9-1-1 emergency calls.</p> <p><b>Serving PSAP:</b> The PSAP to which call would normally be routed.</p> <p><b>NG9-1-1 PSAP:</b> This term is used to denote a PSAP capable of processing calls and accessing data services as defined in NENA’s i3 specification, <a href="#">NENA-STA-010</a>, and referred to therein as an “i3 PSAP”.</p>
<p>TRS (Telecommunications Relay Service)</p>	<p>A federally mandated service provided by states that provides communication relay between TTY users and voice telephone users, via a third party, for communications assistance.</p>



TDD/TTY (Telecommunications Device for the Deaf/Teletypewriter)	<p>The phrase TTY (or Teletype device) is how the deaf community used to refer to the extremely large machines they used to type messages back and forth over the phone lines. A TDD operates in a similar way, but is a much smaller desktop machine. The deaf community has used the phrase "TTY" and sometimes uses it interchangeably with "TDD."</p> <p>Also called TDD (Telecommunications Device for the Deaf)</p> <p>See <a href="http://www.gallaudet.edu/dpn-home/tty-relays-and-closed-captions.html">http://www.gallaudet.edu/dpn-home/tty-relays-and-closed-captions.html</a></p>
VCO (Voice Carry Over)	<p>A method which utilizes both voice and text or video communications, allowing a person with a hearing disability to speak to the other party and read their responses simultaneously as typed or signed by the CA via a text or video capable device.</p>

## 8 Recommended Reading and References

- [1] NENA Master Glossary of 9 1 1 Terminology, [NENA-ADM-000](#)
- [2] Americans with Disabilities Act (ADA) [www.ada.gov](http://www.ada.gov).
- [3] NENA Managers Guide to the ADA Title II: Direct Access, [NENA-STA-035.2-2018](#) (originally 52-002)
- [4] APCO/NENA Minimum Training Standard for TTY/TDD Use in the Public Safety Communications Center, [APCO/NENA ANS 3.105.1-2015](#)
- [5] [Recommended Minimum Telecommunicator Training Guidelines](#)

**Exhibit A: Pre-Programmed Statements**

<b>Standard English</b>	<b>American Sign Language</b>
911 WHERE DO YOU NEED HELP Q GA	911 HERE PROBLEM WHERE Q GA
WHAT IS YOUR PHONE NUMBER Q GA	UR PH NBR Q GA
WHAT YOUR EMERGENCY Q GA	PROBLEM WHAT Q GA
WHAT IS YOUR ADDRESS Q GA	LIVE U WHERE Q GA

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