



# APCO ANS 1.108.1-2018

Minimum Operational Standards for the use of TTY/TDD or similar device in the Public Safety Communications Center

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### **APCO ANS 1.108.1-2018**

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Standard written by the ADA Writing Group. Standard approved by the Standards Development Committee on August 13, 2018 and received final approval by the American National Standards Institute on August 16, 2018.

**Abstract:** This standard provides minimal operational requirements for the use of TTY/TDD or similar devices for Public Safety Communications Centers (PSCC) or Public Safety Answering Points (PSAPS) in providing emergency services access to the deaf, deaf-blind and hard of hearing communities.

**Keywords:** American with Disabilities Act (ADA), Teletypewriter (TTY), Telecommunications Device for the Deaf (TDD), 9-1-1, emergency services, deaf, hearing impaired, training, telecommunicator, PSCC or PSAP, relay service

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# Chapter One

# **EXECUTIVE SUMMARY**

On behalf of public safety communications professionals across the nation, the Americans with Disabilities Act (ADA) Writing Group has created a standard to provide guidance to Public Safety Communications Center (PSCC) or Public Safety Answering Point (PSAP) personnel when interacting with the deaf, deaf-blind and hard of hearing communities to provide emergency and non-emergency services. This Writing Group included a diverse group of representatives from organizations and agencies of all sizes, locations and responsibilities.

American with Disabilities Act (ADA) regulation requires 9-1-1 and other telephone emergency service providers to provide TTY/TDD users with direct access and an opportunity to benefit from the emergency services that is equal to the opportunity afforded to others. As technology evolves, so do the expectations of the citizens served by the PSCCs or PSAPs. Many of the citizens that are protected by ADA communicate via texting and expect to do the same with a PSCC or PSAP. State and local agencies are being legally directed to identify methods to accept these text messages and must keep up with the citizen's expectations. This standard will provide guidance to PSCCs or PSAPS.

PSCCs or PSAPs are required to provide the same level of services to all that reach out for assistance. Ensuring personnel are trained in utilizing the PSAP's technology and communicating proficiently is critical to delivering the correct services that are needed in an expedient manner. Methods to interact with PSCC/PSAP personnel has been around for many years with the TTY/TDD and are now evolving as next generation technology begins to emerge. Agencies are responsible for ensuring methods to communicate with these communities are provided, tested and functional at all times. Public Education is vital to the citizens in the community so everyone is aware of what is expected during an emergency. The ADA Writing Group has developed this standard to provide the requirements needed for PSCCs or PSAPs to provide the same level of emergency service to all that request assistance.

# Chapter Two

# **AGENCY RESPONSIBILITIES**

#### **SCOPE**

The scope of this chapter outlines technologies available to the PSCC or PSAP to ensure ADA compliance and to provide minimal operational requirements for the use of TTY/TDD or similar devices used to provide access to emergency services.

The agency shall provide direct access to emergency services by receiving incoming TTY/TDD calls directly. The agency shall not rely solely on an outside relay service or 3rd party service to receive incoming TTY/TDD calls. The agency shall provide TTY/TDD users equal access to emergency services, ensuring they are as effective as those provided to persons making voice calls. Equal access is gauged by response time, response quality, hours of operation, and other features offered, which include but are not limited to: Automatic Number Identification (ANI), Automatic Location Identification (ALI), and call distribution.

# 2.1 TTY/TDD Devices

- Agencies shall have systems that enable Telecommunicators to handle TTY/TDD calls properly, promptly and as reliably as voice calls.
- Telecommunicators should have the capability to switch back and forth easily from a TTY/TDD mode to a voice mode during the same call.
- The agency should set up an outgoing message for TTY/TDD users when an automatic recorded
  message is utilized to notify citizens their call is in queue. The Telecommunicator should use a
  backup device in the event that a TTY/TDD machine malfunctions. The PSCC or PSAP shall have
  procedures established for reporting and resolving TTY/TDD equipment malfunctions.

# 2.2 TTY/TDD Power Supply

- The agency shall include the TTY/TDD equipment in the power failure contingency plan. In the event of a power failure, the TTY/TDD equipment shall operate on an Uninterrupted Power Supply (UPS) or generator power until normal power is restored.
- The PSCC or PSAP will take measures during a power outage to ensure that TTY/TDD equipment remains fully operational and functional throughout the power failure.

# 2.3 Customer Premise Equipment (CPE)

Most agencies should have customer premise equipment (CPE) to enable the receipt of "Enhanced 9-1-1" calls with associated data from callers in the PSCC or PSAP's jurisdiction. Agencies shall ensure that an acoustic coupler or equivalent technology is available at each answering position as required by ADA TTY/TDD rules.

- The PSCC or PSAP customer premise equipment (CPE) should have automatic detection of TTY/TDD calls.
- PSCCs or PSAPs with enhanced features (ANI/ALI) shall ensure that TTY/TDD calls have the same access to enhanced features as voice telephone calls.

- PSCCs or PSAPs shall establish procedures for transferring TTY/TDD callers and related ANI/ALI
  information between primary to secondary PSCCs or PSAPs. A hosted CPE should ensure the
  capability of receiving calls from TTY/TDD's and present them to the remote PSCC or PSAP.
- The CPE should recognize Baudot and ASCII (American Standard Code for Information Interchange) tones and display text, as well as accept typed text and generate Baudot and ASCII tones on 9-1-1 or ten-digit emergency lines.
- CPE shall store any two-way TTY/TDD conversation and text information.
- If there is an interface between the CPE, TTY/TDD and the PSCC's or PSAP's CAD system, transcripts of the call should also be recorded in the CAD incident.
- The PSAP should develop a Standard Operating Procedure (SOP) that specifically identifies what precanned messages are and outline how to use the messages during call handling.
  - PSAP procedures for activation of pre-canned messages should be immediately available to all positions with TTY/TDD capabilities.

# 2.4 TTY/TDD via a 10-digit number

The PSCC or PSAP shall develop policies identifying call processing, transferring and handling of TTY/TDD calls received or placed from a 10-digit number. The PSCC or PSAP should have either one line for both voice and TTY/TDD calls or it should provide a separate line for voice calls and separate line for TTY/TDD calls.

### 2.5 Text to 9-1-1

With the increasing prevalence of citizens reaching 9-1-1 via text messages, PSCCs and PSAPs need to be prepared to handle these types of transmissions efficiently and effectively. Below are some considerations that will help ensure this process:

- The PSCC or PSAP shall develop policies and procedures identifying how Telecommunicators will interact with incoming text messages.
- The PSCC or PSAP shall develop policies identifying how Telecommunicators will transfer a text caller to an agency with texting capabilities, as well as an agency without texting capabilities.
- The FCC rules require all wireless carriers and other text messaging providers to send an automatic
  "bounce-back" message that will advise citizens to contact emergency services by another means
  with the PCSS or PSAP is not capable of receiving text calls. Agencies that do not accept text
  messages shall ensure that these bounce-backs are in place in their service area.

# Chapter Three

# **OPERATIONS**

#### **SCOPE**

Agencies shall be equipped to receive and process calls with ADA considerations. PSCC or PSAP personnel shall be trained to properly use the equipment provided. PSCC or PSAP personnel shall handle calls with ADA considerations in a manner that is equitable with any other routine call. This chapter will provide guidance and considerations from an operational perspective.

# 2.1 Equipment Testing

- The PSCC or PSAP shall conduct routing testing of TTY/TDD equipment<sup>1</sup>.
- The PSCC or PSAP shall establish a policy for testing procedures to ensure reliability and operational readiness as required by the Department of Justice (DOJ).
- Agency testing procedures should include but are not limited to one of the following:
  - Testing with another agency's TTY/TDD equipment
  - o Testing internally or remote standalone TTY/TDD equipment
  - o Testing with text to 9-1-1 if the PSCC or PSAP is text to 9-1-1 capable
  - Elect to use the TTY PASS-E program (or equivalent) to maintain and validate TTY/TDD training effectiveness<sup>2</sup>
  - Consider random testing (non-announced testing on different days and times)

### 2.2 Documentation

The PSCC or PSAP shall establish and maintain TTY/TDD test call records based on existing state or local retention laws. Test call records should include the following<sup>3</sup>:

- Date and time of each test call
- Call method internal v. external
- Identification of call taker and position where call was received
- Call initiation method (silent or transmitted tones)
- Number of rings to answer

<sup>1</sup> APCO PSAP Service Capability Criteria Rating Scale Section 3.2.6 and 3.3.17: <a href="https://www.apcointl.org/download/public-safety-answering-point-psap-service-capability-criteria-rating-scale/?wpdmdl=6344">https://www.apcointl.org/download/public-safety-answering-point-psap-service-capability-criteria-rating-scale/?wpdmdl=6344</a>

<sup>&</sup>lt;sup>2</sup> TTY-PASS-E is an enhancement to the TTY-PASS program designed to further assist PSAPs with ADA requirements for assessing and documenting call-taker proficiency in responding to a silent line open call. TTY-PASS-E places random silent calls to the PSAP call taker. For further details connect to: <a href="http://tty-pass.telecomxchange.com/tech\_memos/Info\_Memo\_9.pdf">http://tty-pass.telecomxchange.com/tech\_memos/Info\_Memo\_9.pdf</a>

https://c.ymcdn.com/sites/www.nena.org/resource/resmgr/Standards/NENA 56-004.1 TTY TDD.pdf

- Content of TTY response
- Documentation illustrating the call was handled properly
- Format of the test call
- Agencies should retain a copy of the TTY/TDD test call record/transcript

# 2.3 Recognizing Incoming Calls

The PSCC or PSAP shall evaluate the Telecommunicators for proficiency in identifying potential TTY/TDD calls considering the following possible variables:

- Long steady high pitch tones (ASCII handshake when turning on the TTY/TDD machine)
- Silent calls
- Short beeping tones; Baudot
- Calls from a video relay service or other third-party service
- Voice announcer
- TTY/TDD detector

#### 2.4 Annual Review

The PSCC or PSAP should review operational and training policies annually to ensure all procedures are current<sup>4</sup>.

<sup>&</sup>lt;sup>4</sup> Reference ADA Best Practices Tool Kit for State and Local Governments: <a href="https://www.ada.gov/pcatoolkit/toolkitmain.htm">https://www.ada.gov/pcatoolkit/toolkitmain.htm</a>

# Chapter Four

# PUBLIC OUTREACH AND EDUCATION

### **SCOPE**

Public outreach and education facilitates a more effective call taking process. This chapter will provide considerations and guidance regarding 9-1-1 and ADA public outreach and education. The agency should develop public education campaigns identifying all available methods to contact the PSCC or PSAP for emergency and non-emergency requests (TTY/TDD, texting, voice calls, etc.)

### 2.5 Public Education

Agencies should include the following information regarding the TTY/TDD customer experience when providing public education:

- What information shall be obtained by the call-taker during the call (e.g. where, what, when, who)
- What location information the call-taker will have access to depending on class of service (e.g. wireline, wireless, VoIP) and how the call was received (e.g. direct call to 9-1-1 v. relay service)
- The importance of remaining on the line, answering questions, and following direction of the calltaker.
- Offer information on community events with first responders
- Educate customers on future technologies.

# Chapter Five

# **TRAINING**

#### **SCOPE**

It is recognized that Telecommunicators receive training in many facets of call processing. This chapter identifies minimum training requirements for a Public Safety Telecommunicator with regards to the special nature of ADA call handling and ensuring compliance. Additional information regarding TDD/TTY training can be found in the APCO Minimum Training Standard for TDD/TTY Use in the Public Safety Answering Point<sup>5</sup>.

# 2.6 Training

Agencies shall train Telecommunicators to recognize, receive, process and initiate calls of an emergency and non-emergency nature utilizing the PSCC'S or PSAP's primary and backup TTY/TDD equipment, detection equipment, telephony equipment, text/SMS/IM messages, and other related tools or equipment.

### 2.1.1 Required Training

- Agencies shall train Telecommunicators on equipment used to receive and communicate
  with people with disabilities and more specifically, individuals that are deaf, deaf-blind, hard
  of hearing, or speech impaired.
- Agencies shall train Telecommunicators on how to recognize the potential incoming TTY/TDD calls:
  - Silent Calls/Open Line
  - TTY Tones
  - Voice Relay
  - Video Relay Service (VRS)<sup>6</sup>
  - o Text to 9-1-1
- Agencies shall train Telecommunicators on how to properly handle incoming TTY/TDD calls

#### 2.1.2 Recommended Training

- Agencies should train and provide remedial training if necessary to all personnel on relevant laws, communications issues, equipment, call handling and testing.
- Agencies should provide call-takers with proper communication methods for deaf or hard of hearing (see common abbreviations methods below).

<sup>&</sup>lt;sup>5</sup> https://www.apcointl.org/standards/standards-to-download/

<sup>&</sup>lt;sup>6</sup> National Association of the deaf: <a href="https://www.nad.org/">https://www.nad.org/</a>

# 2.7 Uses/Types of equipment

Training should include testing with the variety of devices available to include, but not limited to:

- TTY/TDD
- Videophones
- Voice Carryover (VCO) and Hearing Carry Over (HCO) phones
- Pagers
- Devices that send text of IM messages
- New technologies as they are introduced

# 2.8 Ongoing training

As technologies continue to evolve in the emergency communications arena, emergency communications professionals must take steps to ensure that their organizations keep up with those advancements. Below you will find recommendations as they relate to the continuing education component of this topic.

# 2.1.3 Required ongoing training.

- The PSCC or PSAP shall ensure that Telecommunicators are provided training every six months or meeting ADA Title 3 requirements and DOJ requirements.
- The PSCC or PSAP shall keep records of the results of all test calls.
  - Agencies should attach copies of TTY/TDD printouts as documentation/evidence of the testing procedure.
  - The PSCC or PSAP should include, at a minimum, the date and time of each test call; the identification of the call-taker and the call-taking position; whether each call was silent or transmitted tones; whether the caller received a TTY response and the contact of the TTY response; the time elapsed and the 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 PSCC or PSAP's standard operating procedures.
  - o Records should be retained in accordance with PSCC or PSAP policy.

### 2.1.4 Recommended ongoing training.

- As a function of training, agencies should utilize random TTY/TDD testing of each call-taking position to test equipment function and personnel reaction.
- The PSCC or 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. These tests should be unannounced, and should cover each call taker and each position.
- The PSCC or PSAP should have an ADA main contact at the PSCC or PSAP designated who is responsible for scheduling testing and maintaining records.

 The PSCC or PSAP should maintain a list of responder skill sets in CAD to send responders (if available) who have the needed skill to respond to calls involving hearing impaired or deaf individuals

# **ACRONYMS AND ABBREVIATIONS**

ADA Americans with Disabilities Act

ALI Automatic Location Identification

ANI Automatic Number Identification

ANS American National Standards

ANSI American National Standards Institute

**APCO** Association of Public Safety Communications Officials

ASCII American Standard Code for Information Interchange

**ASAP** As soon as possible

CAD Computer Aided Dispatch

CD or CLD Could

**CPE** Customer Premise Equipment

HCO (Hearing Carry Over) TTY user will use his/her hearing during call

**HD or HLD** Hold Please

IM Instant Messaging

MSG Message

NBR or NU Number

**PLS** Please

**PSAP** Public Safety Answering Point

**PSCC** Public Safety Communications Center

R Are

SHD Should

SMS Short Message Service

**TDD** Telephone Device for the Deaf

TMW Tomorrow

TTY Teletypewriter

**U** You

**UR** Your

VCO (Voice Carry Over) TTY user will use his/her voice during the call

VRS Video Relay Service

**XXXX** Error, Erase

# **GLOSSARY**

Americans with Disabilities Act (ADA): The American 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 Communications Centers (PSCCs) or Public Safety Answering Points (PSAPs) to provide direct and equal access to emergency telephone services for people with disabilities who use teletypewriters (TTY), which are also known as Telecommunications Devices for the Deaf (TDD). This means that the personnel answering calls at the PSCC or PSAP level must be able to directly receive TTY/TDD calls and must be able to engage in TTY/TDD conversation.

Automatic (ALI): Location information associated with the access line from which a call originates.

**Automatic Number Identification (ANI):** Telephone number associated with the access line from which a call originates.

American Standard Code for Information Interchange (ASCII) tones: Computers generally operate in 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 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. Some TTY's can function in both Baudot and ASCII.

**Computer Aided Dispatch (CAD):** A computer based system which aids PSCC or PSAP Telecommunicators by automating selected dispatching and record keeping activities.

**Customer Premise Equipment (CPE):** Communications or terminal equipment located in the customer's facilities terminal equipment at a PSCC or PSAP.

**Instant Messaging (IM):** A method of communication generally using text where more than a character at a time is sent between parties nearly instantaneously.

Public Safety Communications Centers (PSCCs) or Public Safety Answering Point (PSAP): An entity responsible for receiving 9-1-1 calls and processing those calls according to specific operational policy.

**SHORT MESSAGE SERVICE (SMS):** A text messaging service component of phone, Web, or mobile communication systems. It uses standardized communications protocols to allow fixed line or mobile phone devices to exchange short text messages.

**Telecommunications Device for the Deaf/Teletypewriter (TDD/TTY):** The phrase TTY (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."

**Video Relay Service (VRS):** A telecommunications relay service that allows people with hearing or speech disabilities to use sign language to communicator with voice users through video equipment. The video link allows customer assistant from the relay service to view and interpret the party's signed conversation and verbally relay the conversation back and forth with a voice caller.

# **NOTES**



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