

# COLORADO COMMISSION FOR THE DEAF AND HARD OF HEARING

## E-Journal

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News about Colorado's Deaf & Hard of Hearing Communities

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## TTY BASICS FOR BEGINNERS

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### What is a TTY?

A TTY allows Deaf and hard of hearing people to communicate over telephone lines by way of written text instead of speaking and hearing. The TTY (teletypewriter) has a keyboard like a typewriter and a small display screen. It connects to the telephone line to allow typed conversation over regular phone lines. If both parties have TTYs, conversation is simply typed back and forth. If one party can hear and use a regular telephone, conversation takes place through a Telecommunications Relay Service (TRS). In this case, a third-party operator (called a Communication Assistant, or CA) reads the text coming in from the person with a TTY and speaks it out loud to the hearing caller. The CA then types the words from the hearing person on a TTY and sends the written text to the TTY user.

This device was invented in 1964 by Robert Weitbrecht, a Deaf physicist who created a method of coupling together teletypewriters (then used for telegram and military communications). The letters that the TTY user types into the machine are converted into electrical signals that travel over regular telephone lines. When the signals reach the receiving TTY, they are converted back into letters that appear on a display screen, or are printed out on paper, or both. ("A Phone of Our Own: The Deaf Insurrection Against Ma Bell," by Dr. Harry Lang of RIT, a book published by the Gallaudet Press in 2000, covers the early history of the TTY. See website at [gupress.gallaudet.edu/POOO.html](http://gupress.gallaudet.edu/POOO.html))

A TTY is sometimes referred to as a Telecommunications Device for the Deaf (TDD). This term is not currently preferred, primarily because people other than the Deaf can use a TTY: the hard of hearing, people with speech impairments—and hearing people who wish to communicate with other TTY users. The Federal Communications Commission recommended using the term "text telephone," but this was not widely used, in part because when signed in sign language, it resembled the word for "bathroom."

Who uses TTYs? There are 4 million TTY users nationwide; 3 million of these users are Deaf or hard of hearing and the other 1 million have severe speech impairments.

There are two types of TTYs. With a "direct-connect" TTY, the user plugs the phone line directly into the TTY. A "handset coupler" TTY has an acoustic coupler, or cradle into which the user places the telephone handset face-down. Other features found on some TTYs include an answering machine for incoming TTY calls, a printer, remote message retrieval, and message notification via devices such as a pager or vibrating wrist band. Many TTYs have a flashing light to indicate an incoming call, and others can be connected to a lamp to alert people that a TTY call is coming in. Some TTYs are portable and run on batteries, and some work with cell phones, voice answering machines, and computers. TTY prices range from \$200 to \$1,000.

### Telecommunications Relay Services

As mentioned above, Telecommunications Relay Services allow Deaf and hard of hearing people to communicate with hearing people over the phone lines. In Colorado, you can dial Relay Colorado at 711 or 1-800-659-2656 to place a relay call to a person with a TTY. Through Relay Colorado, TTY users can connect to any phone, anywhere, at any time. This communication option has opened up many services, such as mail order catalogs, to the Deaf and hard of hearing. All calls placed through a Communication Assistant are confidential. And best of all, this service is free—no long distance charges!

## Using TTYs in Public and Private Workplaces

One study investigated TTY use in 25 government agencies and 25 private businesses in 8 states, including law offices, a university registrar, public libraries, an auto repair shop, an insurance office, a sheriff's office, an ENT physician's office, a theme park, a TTY sales store, a power company, a bank, a hotel, and various local, state, and federal government offices. (For a report of this study, see [www.advanceforaud.com/common/Editorial/Editorial.aspx?CC=10113](http://www.advanceforaud.com/common/Editorial/Editorial.aspx?CC=10113).) Each establishment was contacted twice via TTY, and the rate of successful call completion was documented. Each business or government agency that responded was asked three questions: (1) What time do you close today? (2) Are you open on Saturday? and (3) What is your address? Only 30 percent of businesses and 36 percent of government agencies correctly answered and/or responded to the TTY calls. Clearly, work remains to be done to educate the public about the importance of TTYs for communicating with Deaf and hard of hearing people.

Title I of the Americans with Disabilities Act (ADA) requires that anyone requiring the use of a TTY for their job must be provided with reasonable access to a communicative device by their employer to allow them to perform their job and to make calls, the same as any other worker. The ADA also covers telecommunications for Deaf and hard of hearing people under Title IV, enforced by the Federal Communications Commission (FCC), which mandates Telecommunications Relay Services (TRS) using TTYs nationwide, 24 hours a day, 7 days a week.

The ADA also includes provisions for TTY telephone access: places of public accommodation or businesses (such as hotels and hospitals) must provide a TTY when phones are available for the general public. At least one TTY should be installed in shopping malls, hospital emergency rooms, stadiums, convention centers, airports, or any building with more than four pay telephones.

## TTY Etiquette and Use

When you make a TTY call, be sure to let the phone ring 7 to 10 times before hanging up. Many Deaf and hard of hearing people rely on flashing lights to tell them that a TTY call is coming in, and these flashers can take longer to attract attention. Callers must identify themselves at the beginning of a call. If there are others present, also reading the TTY text, they should be identified too, as a courtesy. Sometimes the text on a TTY is garbled. In this case, hit the space bar a few times, which may clear up the problem. If not, you may need to hang up and call back.

TTY calls can take up to four times as long as voice calls, because typing is slower than talking. Common English abbreviations are used frequently to save time. Some punctuation, prepositions, or articles can be left out when they do not interfere with meaning. Because TTY users cannot depend on tone of voice and speech patterns to understand the subtleties of a conversation, supplemental information is often typed in parentheses or brackets, such as (smile) or <groan>.

In a TTY call, only one party can write (or speak) at a time—no interrupting! At the end of a thought, one party types GA, for “Go Ahead” or “your turn to talk.” To end a call, a person would type “GA to SK”, which means, “Go Ahead, I’m ready to Stop Keying”. The other party then types “SK SK” (Stop Keying) to end the conversation. Other abbreviations used are “Q” to indicate a question, “XXX” to indicate a mistake (which is then retyped correctly), or “HD” for “hold”. Here is an example of a TTY conversation, using abbreviations:

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Hello ga
HELLO SAM IS MARK THERE Q GA
Yes this is mark how are you q ga
I AM FINE WANT TO JOIN FOR A MIOVXXX MOVIE Q GA
Sure what time q ga
AT 7:00 NIGHT AND M EXXX MEET ME AT MY PLACE GA TO SK
Ok I will see you at 7:00 sksk

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For more information, see the book “GA and SK Etiquette,” a detailed 54-page manual on appropriate ways to converse on the TTY (see [www.weitbrecht.com/browse/ttys/tty-accessories/50.phtml](http://www.weitbrecht.com/browse/ttys/tty-accessories/50.phtml)).

## Drawbacks of TTYs

A big issue is the lack of awareness of TTYs in the public. Many people have never heard of a TTY, much less know what it is for or how it is used. Sometimes, when a Communication Assistant announces a relay call by asking the recipient if they've ever had a relay call, the recipient mistakes the CA for a telemarketer or surveyor and hangs up. Some hearing people are unfamiliar or uncomfortable with the relay process and may hang up when receiving a relay call.

Most TTYs do not allow the user to record a customized greeting to instruct hearing callers about how to use the relay service. (For example, my TTY can take incoming TTY messages, but instructs voice callers to "Please use a text telephone" and many people have no idea what that means.) And some automated voice answering systems disconnect if a response is not entered within a certain period of time, and the CA may not type the options to the TTY user fast enough.

TTY devices are generally more expensive than comparable telephone equipment. There may be technical problems as well. A TTY requires an analog—not digital—line and this is incompatible with some office phone systems. In other cases, the TTY user may make outgoing calls, but the TTY does not respond to incoming calls, especially some using relay. There also may be problems with setting up TTYs with other telephone equipment, such as voice answering machines, Caller ID devices, fax machines, and computer modems. It may be best to set up a separate line for dedicated TTY use, to avoid these compatibility issues. Check with the telephone support people in your office for help.

## Other TTY Options

Some companies sell computer software that allows the user to make TTY calls from a computer without buying a separate TTY device. There may be modem compatibility problems, because TTY communication occurs through Baudot, which is incompatible with ASCII. A Baudot/ASCII modem, or TTY modem, is needed to do the conversion.

Another choice is an "online relay" service, in which the user goes to an Internet website (such as [www.sprintrelayonline.com](http://www.sprintrelayonline.com)), and types in the phone number they wish to call, along with any instructions for the Communication Assistant (such as, "Please explain relay system to person who answers."). The call then proceeds like a regular relay call, with the computer user typing text to the CA, and reading the text from the hearing caller that is typed by the CA. One advantage to this system is that the conversation can be saved on the computer as a text file or printed out.

## LINKS TO TTY RESOURCES

For more information about using TTY devices for effective communication with Deaf and Hard of Hearing people, please check the following resources:

### Federal Communications Commission

Consumers' Guide to Telecommunications Relay Service (TRS)

[www.fcc.gov/cgb/dro/trs/con\\_trs.html](http://www.fcc.gov/cgb/dro/trs/con_trs.html)

### Northeast Technical Assistance Center

How to Use a TTY

[www.netac.rit.edu/publication/tipsheet/TTYa.html](http://www.netac.rit.edu/publication/tipsheet/TTYa.html)

### The Access Board, U.S. Architectural and Transportation Barriers Compliance Board

Using a TTY

[www.access-board.gov/publications/usingATTY/A2.html](http://www.access-board.gov/publications/usingATTY/A2.html)

### University of Wisconsin, Madison

Using Your TTY (a special focus on TTY use in office environments)

[www2.fpm.wisc.edu/accessibility/using\\_your\\_tty.htm](http://www2.fpm.wisc.edu/accessibility/using_your_tty.htm)

**Gallaudet University**

Technology Access Program

[tap.gallaudet.edu/tty.htm](http://tap.gallaudet.edu/tty.htm)

**TDI (Telecommunications for the Deaf, Inc.)**

A national advocacy organization with a wealth of resources on TTY and telecommunication issues

[www.tdi-online.org](http://www.tdi-online.org)

**Job Accommodation Network, U.S. Department of Labor**

Communicating Using a TTY

[www.jan.wvu.edu/soar/hearing/commtty.html](http://www.jan.wvu.edu/soar/hearing/commtty.html)

**Deaf and Hard of Hearing Access Program, Technical Assistance Center**

Public Entities and TTY Access

[www.odc.state.or.us/tadoc/ada59.htm](http://www.odc.state.or.us/tadoc/ada59.htm)