NCRA
CART Community of Interest

Consumer Awareness and
Recommended Style and Format Guidelines for Communication Access
Realtime Translation (CART) Providers

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Mission Statement

The purpose of this publication is to provide recommended style and formatting guidelines for CART providers in the United States of America and Canada as well as to offer CART providers insight into the environment and circumstances within which their consumers live and work. The material found in this manual is the product of the National Court Reporters Association (NCRA) CART Community of Interest (COI).

The goal of this manual is to assist the independent CART provider by identifying and providing, through example, CART style and formatting guidelines to create a more homogeneous product for the CART consumers in the United States and Canada, recognizing that there are regional differences and preferences of CART consumers and providers.

Most CART companies have already established their own CART guidelines for their employees and independent contractors. This manual is not intended to usurp the direction provided by any established company. The direction provided by the company you are working for should take precedence over any instruction provided in this manual. However, this manual is meant to serve as a reference for independent CART providers and any individual who has not participated in a comprehensive CART Training Program (CTP).

Therefore, the target audience for this manual may consist of:

➢ Freelance, official court reporters, and captioners who are transitioning into a CART career on their own without the benefit of a training program.

➢ CART providers in training with a mentor or apprenticeship program.

➢ Independent contractor or freelance CART providers who have questions on the proper formatting or preferred style guidelines.

➢ A resource and validation for working CART providers who need a refresher in the basic formatting style guidelines.

It is recommended that the information in this document is used in conjunction with other NCRA documents, including but not limited to: "CART Provider's Manual," "Consumer Bill of Rights," "Individuals with Disabilities FAQ," "Provider Bill of Rights," "Guidelines for Professional Practices," and others listed in the NCRA Website, www.ncraonline.org.

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Know Your Consumers

Hearing loss ranges from mild to profound. The distinctions between the terms "deaf" and "Deaf" are based principally on the individual's preferred language (spoken or sign), while the differences between "deafened and hard-of-hearing" are based on the actual degree of hearing loss. In order to communicate, Deaf, deaf, deafened, and hard-of-hearing individuals may use gestures, sign language, writing or typing, hearing aids, cochlear implants, or other assistive listening devices.

Consumer Definitions

deaf: This term is generally used to describe individuals with a severe to profound hearing loss, with little or no residual hearing. Some deaf people use sign language, such as American Sign Language (ASL) or Langue des signes québécoise (LSQ), also known as Canadian Sign Language, to communicate. Others use speech to communicate using their residual hearing and hearing aids, assistive listening devices, cochlear implants, and/or speechreading. Still others use a combination of sign language and speech.

Culturally Deaf: This term refers to individuals who identify with and participate in the language, culture, and community of Deaf people, based on sign language. Deaf culture does not perceive hearing loss and deafness from a pathological point of view but rather from a socio-cultural point of view, indicated by a capital "D" as in "Deaf culture." Culturally Deaf people may also use speech, residual hearing, hearing aids, speechreading and gesturing to communicate with people who do not sign.

The book, **For Hearing People Only: Third Edition**, Chapter 55, offers this definition of Deaf culture: "One possible definition of U.S. Deaf culture (and there must be many!) is a social, communal, and creative force of, by, and for Deaf people based on American Sign Language (ASL). It encompasses communication, social protocol, art, entertainment, recreation (e.g., sports, travel, and Deaf clubs), and worship."[1]

deafened or late-deafened: These terms describe individuals who grow up hearing or hard-of-hearing and, either suddenly or gradually, experience a profound loss of hearing. Late-deafened adults usually communicate using speech, though often cannot understand speech without visual cues such as CART, computerized note taking, speechreading or sign language.

hard-of-hearing: This term is generally used to describe individuals who use spoken language (their residual hearing and speech) to communicate. Most hard-of-hearing people can understand some speech sounds with or without hearing aids and often supplement their residual hearing with speechreading, hearing aids, and technical devices. The term "person with hearing loss" is increasingly used and preferred.

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Service Definitions

Communication Access Realtime Translation (CART): is a word-for-word, near–verbatim, speech-to-text interpreting service for people who have hearing loss and would not be able to fully participate otherwise. CART provides a complete translation of all spoken words and environmental sounds, empowering consumers to decide for themselves what information is important to them. CART is used primarily for live events, such as educational classes, conferences, business meetings, doctor's appointments, legal proceedings, religious gatherings, and social situations. Depending on the situation, a CART provider may be present on site or be in a different location, using the Internet to deliver the text to the consumer. When the CART provider is off site, the service is referred to as remote CART.

CART in these settings requires a skilled steno machine writer or voicewriter with a Total Accuracy Rate of 98 percent or higher. See page 30 for a detailed explanation of Total Accuracy Rate. CART may be performed at speeds up to and possibly exceeding 225 words per minute.

Closed captioning: A term describing several systems developed to display text on a television or video screen to provide additional or interpretive information to viewers who wish to access it. Closed captions typically display a transcription of the audio portion of a program as it occurs (either verbatim or in edited form), sometimes including non-speech elements.[4] Closed captions are hidden from the viewers and must be decoded or turned on in order to be viewable.

Open captioning: Open-captioned text is permanently encoded into the film to integrate it with the image. Open captions do not need to be decoded and are always viewable.

The following methods are also used in some settings to provide speech-to-text communication access, but are not comparable to word-for-word CART services.

C-Print: A trained operator, called a C-Print captionist, produces text of the spoken information using a software application called C-Print *Pro*. The captionist is skilled in text-condensing strategies and in typing using an abbreviation system, which reduces keystrokes. The text can be displayed simultaneously to one or more students in different ways, including additional computers (laptops) or display monitors. The captionist includes as much information as possible, providing a meaning-for-meaning (not verbatim) translation of the spoken English content.[2]

TypeWell: A speech-to-text transcription system that provides communication access and notes after class to students who need alternative or additional support. This service differs from traditional CART services as it is meaning for meaning, not word for word. Prior to starting a class in which TypeWell is being used, the student should make an appointment with a TypeWell transcriber to familiarize him- or herself with the service. [3]

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How the Ear Works

The auditory system can be divided into three major regions: outer ear, middle ear, and inner ear. Connecting the middle ear to the throat is a canal called the Eustachian tube. (Figure 1).[5]
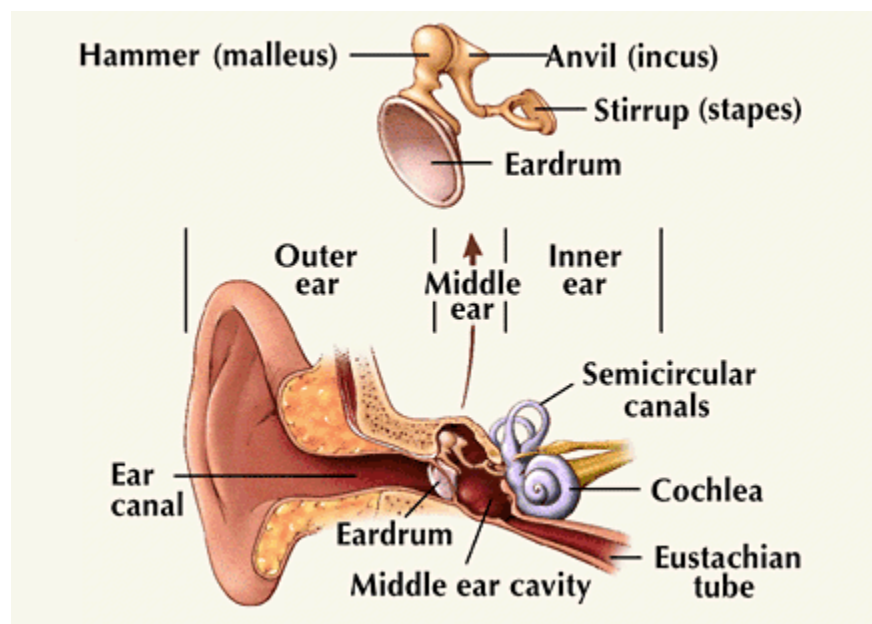
The outer ear consists of:

- The ear lobe (pinna or auricle)
- The ear canal, through which sound waves pass to the ear drum
- The ear drum (Tympanic membrane that separates the outer ear from the middle ear)

The ear lobe and the outer ear canal, which delivers sound to the middle ear, make up the outer ear — the part that we see. Within the outer ear canal are wax-producing glands and hairs that protect the middle ear.

The ear drum is a thin, semitransparent, oval-shaped membrane that separates the middle ear from the outer ear. Its purpose is to vibrate according to the frequency and amplitude of sounds that strike it. On the middle ear side of the ear drum is attached a horseshoe-shaped platform that rests on the ear drum itself. Attached to it is the first of the bones of the middle ear (malleus), and the tensor tympani muscle that dampens and amplifies sounds.[6]

The middle ear consists of:

- The inner part of the ear drum to which one end of the hammer is attached
- The hammer (malleus) (a bone)

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- The anvil (incus) (a bone), which is connected on one end to the hammer and the other end to the stirrup
- The stirrup (stapes) (a bone), which is connected on one end to the incus and on the other end to the footplate that rests on the face of the oval window

All three bones are known as the *ossicular chain* and are encased in a jelly-like mucous membrane. (Figure 2).[7]
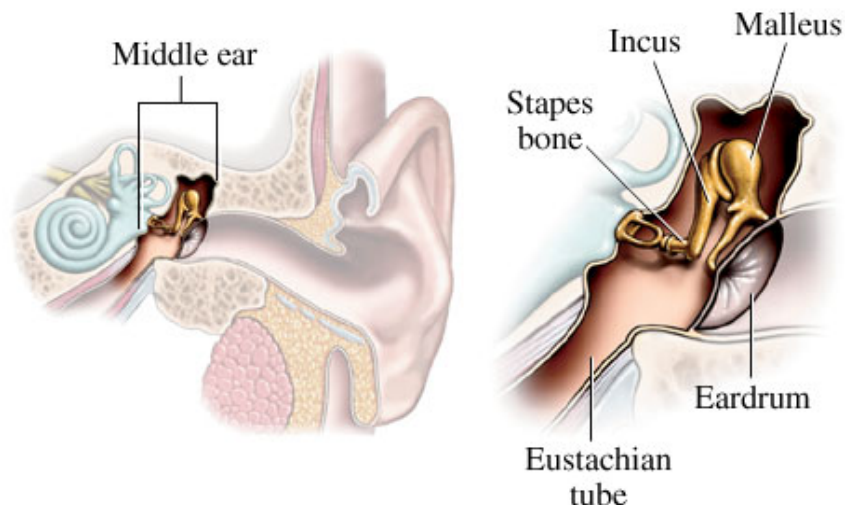
The purpose of the middle ear is to:

- Transmit and amplify sounds from the eardrum to the oval window
- Act as a dampener on loud sounds that may damage the inner ear (cochlea)

The hammer is attached to the lining of the eardrum. The anvil (middle bone) is attached to the hammer on one end and to the stapes on the other. The other end of the stapes is attached to the oval window with what is called the "footplate." These three tiny bones transmit sound from the eardrum to the oval window.

The oval window is the demarcation between the middle ear and the inner ear functions. It provides a platform for the footplate to vibrate on. Except for some low frequencies that can be transmitted through the mastoid bone, the footplate and oval window are the only means by which sounds from the outer ear get transmitted through the middle ear to the inner ear.

The middle ear is connected to the throat by a narrow channel called the Eustachian tube. The Eustachian tube has two purposes:

- It functions as a pressure valve between outside air pressure and the middle ear chamber. Ordinarily, the Eustachian tube is closed because the air in the middle ear chamber must be completely still for the optimal vibration of the ossicles. When swallowing or yawning, it opens briefly to allow an exchange

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of air, equalizing the air pressure within the middle ear with the air pressure outside. Holding the nose and breath, pushing out when descending in an airplane causes the ears to "pop." This reaction is the Eustachian tube being forced open, allowing the external air pressure to balance with the middle ear pressure.

- The Eustachian tube is also used to drain accumulations in the middle ear, such as mucous or bacterial detritus. If the Eustachian tube becomes blocked, an infection can occur in the middle ear.[8]

The inner ear: (Figure 3)[9]
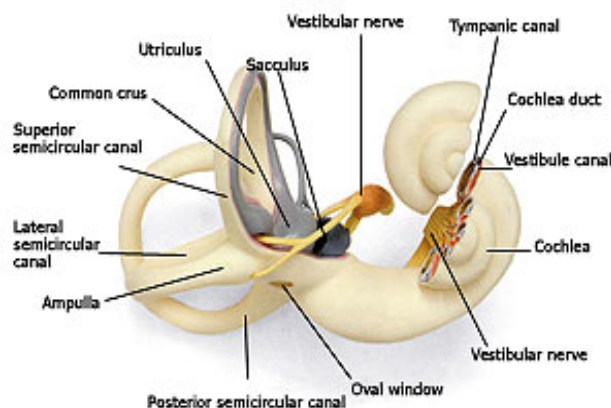
The inner ear contains the most important parts of the hearing mechanism — two chambers called the vestibular labyrinth and the cochlea.

The vestibular labyrinth consists of elaborately formed canals (three semicircular tubes that connect to one another), which are largely responsible for the sense of balance.

The cochlea, which begins at the oval window, curves into a shape that resembles a snail shell. Tiny hairs line the curves of the cochlea. Both the labyrinth and cochlea are filled with various fluids. The cochlea is the second part of the inner ear and is the actual organ of hearing. It is embedded in the skull in what is called the mastoid area, a spongy part of the skull just behind where the jaw hinges. The mastoid bone acts as an amplifier for some sounds, especially those in the lower frequency ranges.[10]

Auditory Nervous System:
Most descriptions of the auditory system stop at the inner ear; however, the ability to hear does not. Healthy hearing also depends on functioning neural circuitry from the hearing nerve to the hearing centers of the brain, called the auditory nervous system. After inner hair cells fire, the hearing nerve sends signals to various cell groupings in the brainstem and brain. It is considered that a person is first aware of having heard sound when these signals reach the brain.

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Assistive Listening Devices

Assistive listening device: An assistive listening device (ALD) is any type of device that can help you function better in your day-to-day communication situations. An ALD can be used with or without hearing aids and cochlear implants to overcome the negative effects of distance, background noise, or poor room acoustics.[11]

Hearing aids: A battery-powered electro-acoustic device that brings amplified sound to the ear to improve hearing, generally.

FM system: Personal frequency modulation (FM) systems are like miniature radio stations operating on special frequencies assigned by the Federal Communications Commission. The personal FM system consists of a transmitter microphone used by the speaker and a receiver used by the listener. The receiver transmits the sound to a hearing aid either through direct audio input or through a looped cord worn around the neck. Personal FM systems are useful in a variety of situations, such as listening to a travel guide or book review, in a classroom lecture, in a restaurant, in a sales meeting, or in a nursing home or senior center.

FM systems are also used in theaters, places of worship, museums, public meeting places, corporate conference rooms, convention centers, and other large areas for gathering. In this situation, the microphone/transmitter is built into the overall sound system. A person is provided with an FM receiver that can connect to his/her hearing aid (or to a headset if a hearing aid is not worn).[12]

Telecoil or T-coil (commonly referenced as a T-switch): This is a metal rod encircled by many turns of copper wire. The telecoil works in conjunction with an induction loop by converting the electromagnetic signals into alternating electrical currents that are fed to the hearing aid. The hearing aid then converts the electrical currents into sound.[13] A T-coil is commonly switched on for telephone usage.

Induction loop systems: Loop systems are most common in large group areas. They can also be purchased for individual use. An induction loop wire is permanently installed (perhaps under a carpet) and connects to a microphone used by a speaker. (In the case of individual systems, a wire loop is laid on the floor around the user and the speaker.) The person talking into the microphone creates a current in the wire, which makes an electromagnetic field in the room. When a hearing aid is switched to the "T" (telecoil/telephone) setting, the hearing aid telecoil picks up the electromagnetic signal, and the volume is adjusted through the hearing aid.[14]

Cochlear implant: A cochlear implant is a device that provides direct electrical stimulation to the auditory nerve. In sensorineural hearing loss where there is damage to the tiny hair cells in the cochlea, sound cannot reach the auditory nerve. With a cochlear implant, the damaged hair cells are bypassed and the auditory nerve is stimulated directly. The cochlear implant does not result in "restored" or "cured" hearing. It does, however, allow for the perception of sound "sensation."[15]

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Legal CART

While CART provides communication access, it also provides equal access or a fair opportunity in the legal setting. The legal setting is defined as any setting where there is an official record being memorialized by an official court reporter, freelance reporter, or other legally authorized method.

NCRA Guidelines

When providing CART in a legal setting, NCRA has established the following guidelines for professional practice:

"Section III - Communication Access Realtime Translation (CART) Provider in a Legal Setting

A Communication Access Realtime Translation (CART) provider in a legal setting performs realtime translation as an aid to communication for people who are deaf or hard-of-hearing. Common sense and professional courtesy should guide the member in applying the following guidelines. When CART is provided in a trial or deposition setting, special legal requirements may apply. When providing CART in a nonlegal setting, follow the guidelines set out in Section 4.

In providing CART service, a member should:

1. Accept assignments using discretion with regard to skill, setting, and the consumers involved, and accurately represent the provider's qualifications for CART.
2. Establish a clear understanding of:
    A. who is hiring the CART provider;
    B. the role played by the CART provider in assisting with communication as opposed to the role of the official reporter of proceedings in providing a verbatim record;
    C. the fact that no roughly edited electronic file is to be produced; and
    D. the need to preserve the unedited text file with disclaimer in accordance with statute or court order, or for a period of no less than five years.
3. Refrain from working in the dual capacity of official reporter of proceedings and CART provider at the same time. When no other option exists, the role to be performed is that of the official reporter of proceedings, and all present are entitled to read the display screen of the official reporter, which does not include the content and spirit of the speaker, as well as environmental sounds, that would normally be provided by the CART provider. Disclosure must be made to the court and all parties, including the person requiring interpretive services, of this limitation.
4. Acquire, when possible, information or materials in advance to prepare a job dictionary.
5. Know the software and hardware system used and be able to do simple troubleshooting.

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6. Strive to achieve, as nearly verbatim as possible, 100 percent accuracy at all times.
7. Include in the realtime display the identification, content, and spirit of the speaker, as well as environmental sounds (except under circumstances described in C above).
8. Refrain from counseling, advising, or interjecting personal opinions except as required to accomplish the task at hand.
9. In a confidential setting (i.e., legal discussions, jury deliberations, attorney/client discussions), the display should not be visible to others. The CART provider should delete all files immediately after the assignment unless otherwise requested to do so, or ordered by the court.
10. Cooperate with all parties to ensure that effective communication is taking place.
11. Preserve the privacy of a consumer's personal information.
12. Familiarize oneself with the provisions of NCRA's "The CART Provider's Manual," these guidelines, the General Guidelines for Professional Practice, and any updates thereto.
13. Keep abreast of current trends, laws, literature, and technological advances relating to CART."[16]

FAQs for CART in the Legal Setting

When providing CART in the legal setting, the consumer choices are honored and followed. In the absence of any consumer instruction or courthouse rules, the following are suggested solutions for when working in the legal setting. These suggested solutions are gathered from the CART experts countrywide.

Question: Who hires the CART provider?
Answer Depo: One of the attorneys.
Answer Courtroom: The state court administrator, a member of the judicial team, and/or the State commission for the Deaf and hard of hearing.

Question: How does the CART provider prepare?
Answer Depo: Call ahead of time to the law firm and arrive early to prep from exhibits, prior deposition transcripts, or pleadings.
Answer Courtroom: Peruse the case file from the clerk.

Question: Where does the CART provider sit?
Answer Depo: Wherever the CART provider and the consumer – whether the witness or an attorney -- can both have access to the realtime screen and where the CART provider can hear what is being said.
Answer Courtroom: The CART provider sits in various locations in the courtroom, depending upon who is being served and where the proceedings can be clearly heard and understood.

For example:
When serving a deaf plaintiff or defendant, the CART provider sits at the plaintiff's or defendant's table, being able to hear and write the proceeding, as well

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as any attorney/client discussions. The CART provider would not write any sidebar discussions. The CART provider needs to position the screen in such a manner that privacy and attorney/client discussions are kept confidential. A privacy screen placed over the laptop screen is advised.

When serving a deaf attorney, the CART text may be placed on an overhead screen, thus allowing the attorney to move freely about the courtroom during examination. However, the deaf attorney may prefer to have the laptop on the table, ensuring all privacy measures are followed.

When serving a deaf witness, the CART provider will sit in a place that allows for the proceedings to be heard as well as ensuring the CART screen is visible by both the CART provider and the witness. The CART provider needs to be mindful of the seating location of the official reporter.

When serving a deaf juror, the CART provider sits in or near the jury box, allowing that juror access to the CART text to that juror. When the jury goes to deliberate, the CART provider goes into the jury room.

Question: When does the CART provider provide an unedited/rough or official transcript for a deposition or in the courtroom?
Answer: Never.

Question: Does the CART provider write "Q" and "A" when writing testimony?
Answer: Use of "Q" and "A" is not recommended for CART in any legal setting. The generally accepted CART format or CART company's rules for speaker IDs should be followed in the legal setting. This means either first names, first and last names, or merely a change of speaker is used.

Question: Do you write what the CART consumer says?
Answer: No. Do not write what the CART consumer says unless instructed to do so. This must be clarified beforehand. Put in an indication on the CART screen that the consumer is speaking. The reason is the movement of the screen indicates someone is talking and therefore the screen needs to be watched. If the consumer's speech is written, there is no halting of text and the consumer is forced to always watch the screen rather than what is going on around them. Further, this distinguishes the communication access from the official transcript.

Question: Are the CART notes destroyed after the legal proceeding?
Answer: Notes are preserved in an unedited fashion, in accordance with statute or court order or for a period of no less than five years. See page ??? for suggested wording of a disclaimer stating the CART file is not to be used as an official transcript in any legal proceeding.

Question: What does the CART provider do if the deaf witness or deaf party has a heavy accent or a difficult-to-understand cadence or speech pattern?
Answer: CART providers are trained to listen to and understand different speech patterns and accents. If the CART provider is able to understand a deaf witness or party, and others in the legal setting are not able to understand the speech clearly,

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the CART provider can hook up a projector to his or her CART screen and project the words for all to read.

Note: Someone will still need to read the answer out loud. That is not the CART provider's job. A trained oral interpreter should be assigned by the parties to perform that task so that the official record may be created

In that instance, the CART provider should not read out loud what is on the CART screen. A trained oral interpreter should be assigned that task.

Question: What if the deaf witness or deaf party does not use his or her voice at all, but instead types the answers on the CART provider's computer?
Answer: The CART provider's computer should be connected to an overhead projector for all in the courtroom to view.

Note: Someone will still need to read the answer out loud. That is not the CART provider's job. A trained oral interpreter should be assigned that task so that the official record may be created.

Question: Is the CART provider sworn in?
Answer: Yes. Here is a sample:

"Do you solemnly swear or affirm that you will fully and accurately provide word-for-word Communication Access Realtime Translation from the spoken word to written text, displaying such text in a clear and confidential manner? And do you solemnly swear that you will display any typed answers or comments proffered by the consumer in lieu of oral testimony, to the best of your ability?"

Question: Does the CART provider write sidebars?
Answer: It depends on who is receiving services. If it is an attorney or a judge, then yes. If it is any other party, then no.

Question: Does the CART provider write voir dire?
Answer: Yes, if necessary.

Question: I am hired and paid by a state governmental body to provide CART for a state employee who has oversight of projects funded by the state. I send a rough draft of this quasi-official public meeting to the consumer. Is that rough draft a public record? Is that rough draft discoverable?
Answer: This is an issue for which the state needs to seek legal counsel. It is to be noted that under no circumstances is a CART rough draft to be used as an official record. The CART rough draft must contain a disclaimer in the beginning and end of the file. Here is a sample CART disclaimer:

* * * * * *

This text is being provided in a rough draft format. Communication Access Realtime Translation (CART) is provided in order to facilitate communication accessibility and may not be a totally verbatim record of the proceedings.
* * * * * *

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Hardware and Tips for Onsite and Remote CART

All CART providers will need a desktop or notebook computer, a steno machine that can hook up to the CART provider's computer or a mask if using voicewriting software, and CAT software.

Onsite

When providing onsite CART, the text is displayed either on individual computer(s) or screen(s) or may be projected onto a large screen. The hardware needed includes:

- Access to power supply
- Extension cord
- 2-prong to 3-prong ground cord adapter
- Portable storage device (flash drive)
- Chair/table
- Tape for taping down cords, as necessary (preferably gaffer's tape)
- Headphones (optional). When possible, receive audio off of the audio mixer board directly or through an audio amplifier box. The audio amplifier box can receive a mini, quarter inch or XLF connection.

Tips for providing onsite CART:
- Speakers should be identified whenever possible. It is most helpful to the consumer if you can, at a minimum, use a speaker ID to identify the moderator or meeting leader or professor.
- All environmental sounds and even "(silence)" or "(papers shuffling)" should be noted.
- When audio is not discernible, a parenthetical such as "(inaudible)" may be written one time to let the consumer know there are audio difficulties.
- If given permission by the consumer, the remote CART provider may interrupt the session and ask for a repeat or for a microphone to be readjusted.
- Setup in a room is dependent upon final approval and acceptance of the consumer, but the recommended setup tips for onsie CART include:
- Sit closer to the front of the room, speakers, PowerPoints.
- Protect equipment by staying clear of doorways and paths of heavy traffic.
- Avoid the glare of sunlight through windows onto the CART screen or into the CART consumer's eyes.
- Introduce yourself and identify your role to the speakers, teachers, moderators.
- Confirm with the CART consumer that communication access is comfortably achieved.

Remote

With remote CART, the provider is in one location and the consumer is in another. The CART provider is listening to voices via the phone or over the Internet, translating the speech to text in realtime, and transmitting the text to a designated Uniform Resource Locator (URL), Web page, Internet site, or other locations or devices. This is particularly helpful in areas where there is a lack of CART providers. The hardware needed includes:

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Consumer needs:
- Computer
- Internet connection
- Audio via phone lines
  - ➢ Speakerphones with or without extension microphone
  - ➢ A speaker may wear a wireless microphone with the speakerphone
- Audio via VoIP (Voiceover Internet Protocol)
  - ➢ When a phone line is not used, programs such as Skype or AIM or Google Voice may be used to transmit the audio from the consumer site to the remote CART provider. These programs need to be downloaded onto the consumer's computer and the remote CART provider's computer. IDs need to be exchanged.
  - ➢ In a large group setting, the consumer will send the audio via Skype by connecting the audio mixer board output directly into the mic port of the computer housing Skype.

CART provider needs:
- Computer
- Internet connection
- Audio Source via phone line or VoIP or IM (Instant Messaging) or Web audio
  - ➢ Headphones

A CART provider should have backup power in the event of a power outage. All necessary CART components should be plugged into the backup power device. A couple of examples of recommended backup power sources include an uninterruptible power supply (UPS) or a generator.

A CART provider should have a backup computer and steno machine, in case of equipment failure.

Tips for providing remote CART:
- Speakers should be identified whenever possible. It is most helpful to the consumer if you can, at a minimum, use a speaker ID to identify the moderator or meeting leader or professor.
- When others join the call, there is often a bell or beep, and that is important to indicate in the text.
- All environmental sounds and even "(silence)" or "(papers shuffling)" should be noted.
- When audio is not discernible, a parenthetical such as "(inaudible)" may be written one time to let the consumer know there are audio difficulties.
- If given permission by the consumer, the remote CART provider may interrupt the session and ask for a repeat or for a microphone to be readjusted.
- If there is a problem with the audio, the remote CART provider should notify the consumer via chat or parenthetically and suggest remedies.
  - CART may be displayed onsite and remotely simultaneously.

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Writing for CART
Realtime Skills for CART

When it comes to CART, the focus needs to be on the word "realtime." In the CART environment, the consumer is relying on the CART provider's translation to get an education, to participate in a meeting or conference, to understand their medical condition and options regarding their health, to interact in social activities and many other settings. Although a corrected transcript can be provided at a later time, the consumer's opportunity to react to, interact with and respond to what was said has passed. Therefore, the accuracy and readability of the realtime text is essential. In court reporting, the "record" is the driving force. In CART, the consumer's understanding and equal access are the driving forces.

If the translation is highly accurate and as near verbatim as possible, the goal has been achieved; how the CART provider achieved that goal should not be criticized or questioned. If the translation is not highly accurate, then it is the CART provider's responsibility to improve. The first step towards improvement is acknowledging that the accuracy is not what it should be. The second step is to analyze your translation, identify the weak areas and incorporate methods to improve. There is not a universally correct theory, method or approach for writing realtime as a CART provider, but there are universal principles and techniques that may be taken from different theories, adopted and applied to one's writing to shore up the weak areas and improve the overall translation.

Know How You Write
It is important that you know your theory and know how you write phonetically. The topics that you will encounter as a CART provider are very diverse, and you cannot allow yourself to be overwhelmed by the content of what is being said. You need to hear sounds and have the confidence to automatically write those sounds according to your basic theory. If you hesitate to think about how you write a word, you will not be able to keep up with the dialog, you will have to push beyond your limits and likely sacrifice accuracy. Confidence is at least half the battle. When your translation is good, it continues to be good. When it is not good, it can be so distracting that it interferes with your ability to continue writing.

If you know which fingers are weak or which are heavy, you can make better decisions about how you should write certain sounds or how to incorporate brief forms. Some people can cleanly stroke final –FN for words containing the syllable VEN, such as *oven*, *heaven, muffin, Kevin.* If you cannot stroke –FN without dragging in the –R, then although it requires an extra stroke, it is better to write the word in two strokes. If you always misstroke words containing the final –TH, then consider a new way to write the final –TH. Improvement does not occur uninitiated.

Know Your Dictionary
It is also important that you know what is in your dictionary. Some words or names that are not in your dictionary may display as readable untranslates, and that is fine.   If you have a lot of brief forms and phrases in your dictionary, you cannot rely on readable untranslates. When phrases and brief forms inadvertently translate as part of misstrokes or untranslates, it can be very confusing to the

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consumer. If you are not sure if a word or name is in your dictionary, the safest bet would be to fingerspell the word. Even if it is not spelled correctly, at least it will be readable.

Brief Forms and Phrases

Everyone has an opinion on the use of brief forms and phrases, but the ultimate goal of readable translations needs to always be in the forefront. If you are able to incorporate brief forms and phrases successfully – without misstroking them and without the brief forms and phrases translating inadvertently in the middle of other words – then there is not much of an argument against using them.

This is such an important point, let it be repeated here: It is not important to discuss the philosophical merits of using brief forms and phrases or not. What is most important is whether or not a brief form or phrase is showing up in places where it shouldn't. Consumers do not know steno and cannot read through mistranslations like CART providers, court reporters and captioners can. If a brief form keeps popping up where it shouldn't, it is time to take it out and replace it with a stroke you can better control.

While most court reporters, CART providers and captioners use at least some brief forms, it is impossible to have a brief form for every multi-syllabic word or every multiple word pronoun. To be an effective CART provider, you need to be highly skilled and accurate on the steno machine or with your voice model. Extensive use of Brief forms and phrases is not going to make you a cleaner writer or a better CART provider. You need core skills and speed as a foundation; from there you build upward.

Root Words, Prefixes and Suffixes

The goal is to strive for clean, accurate translation built upon what was mentioned above – confidence and knowledge of your dictionary and writing style. A positive way to expand the power of your dictionary and to ensure better translation is to incorporate a method of word building based upon stroking definitive root words and adding prefixes and suffixes. The prefixes and suffixes need to be dedicated strokes that serve only that one purpose. Once a stroke is defined as either a prefix or suffix, it is off-limits for any other purpose. As an example, you need to have a stroke that is defined to be the prefix EN and a separate stroke that is defined as the suffix EN, never to be interchanged.

Incorporating the use of dedicated strokes for prefixes and suffixes not only aids in automatic word-building, it also prevents word boundary translation errors.   There are several published realtime books which may be used to help you incorporate prefixes and suffixes into your writing style.

Conflicts

Before computer-aided transcription (CAT) was invented, court reporters rarely concerned themselves with conflicts, such as their/there/they're. It was up to the typist to know the correct spelling based on the context of the sentence. However, with the advent of CAT, most software vendors have created artificial intelligence to assist the court reporter in making guesses at selections or displaying both/all

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options to be chosen during the editing process. While this is extremely innovative and convenient, it is not sophisticated enough for CART providers to rely on. Therefore, it is important to resolve all conflicts. Of course, the obvious conflicts like **HEAR** and **HERE** are well known, but we must also consider conflicts that are created from misstrokes as well as stacking. For example, **TPHR** could be IN, FROM, or THERE. It will likely become necessary for a CART provider to change strokes learned early on to resolve these types of conflicts. For example, a common misstroke of **WHR** (WHETHER) for **WH** (WHEN) could be resolved by writing out **WHEN** (WHEPB) and defining **WH** as WHETHER.
Stacking presents a whole new set of problems. **THAS** (THAT IS) is a very common stack for –**S THAT** as in HATS THAT (HAT THAT IS). A solution would be to define **THAS** as –**S THAT**. Keep in mind, when you write realtime at high rates of speed, your stacking may increase.

Delete a Space and Add a Space
Realtime writing requires the use of manually inserting a space and/or deleting a space to achieve the desired result and to avoid word-boundary issues.

> That groundball play was the best we've seen in this game.
> [GROUND delete space BALL]

> He used a bass net to catch the fish.
> [BASS space NET; otherwise it may have translated as BASSINET]

Root Words and Inflected Endings
There is a philosophy that coming back for inflected endings will decrease your chance of untranslates. The inflected endings being referred to are -S, -D, and -G. The primary purpose for coming back for inflected endings in a separate stroke is word building. The assumption is that those inflected endings -- as well as any suffix -- will likely attach to an existing root word that is in your dictionary whereas you may not have an entry in your dictionary with the plural and past-tense endings incorporated into the root word stroke. While it may be easier to write the word **HEARING** in one stroke -- **HEARG** --if you retrain yourself to always come back for the inflected ending, it will pay off when another word+inflected ending is not in your dictionary.

The result is cleaner, more accurate translation because you are building upon root words. Oftentimes, trying to incorporate the endings into the final stroke of a root word can make that stroke quite cumbersome and easy to misstroke. By coming back with a separate stroke, you likely will find that you can better control your stroking of the root word.

Dictionary Building
Any and all information required for a CART dictionary can be found by searching the Internet (www.google.com, e.g.). Or you can purchase dictionary building products and services (www.NCRAOnline.org, e.g.).

> ➢ Animals, especially dog breeds

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- ➤ Assistive listening devices
- ➤ Automobiles and motorcycle names (makes and models)
- ➤ Biblical references
- ➤ CEOs of major corporations, especially those under indictment or involved in scandals
- ➤ Cochlear implant companies and products
- ➤ Countries, continents, and major international cities
- ➤ Current administration, including President, First Lady, President's family members, Vice President, Vice President's family members, White House spokesman and cabinet members
- ➤ Educational institutions for Deaf students
- ➤ Election candidates, including unknown or unpopular Presidential candidates
- ➤ Fashion designers
- ➤ Flowers, plants, and trees
- ➤ Foods, herbs and spices, wines, liquors, and beverages
- ➤ Governors, mayors of major cities
- ➤ Holidays and holiday terms
- ➤ Major U.S. counties
- ➤ Members of U.S. Congress and the Senate
- ➤ Oceans, rivers, lakes, mountain ranges, islands, volcanoes, etc.
- ➤ Parts of the ear
- ➤ Past and current U.S. Vice Presidents
- ➤ Past U.S. Presidents
- ➤ Top entertainers (past and present), actors, musicians, TV personalities, models, reality TV "stars," comedians, popular TV shows and their characters, top movie titles
- ➤ U.S. states and their major cities (need briefs for all the states)
- ➤ World leaders (past and present)
- ➤ Zodiac signs

While building your dictionary will take quite some time to complete, it is recommended that you focus on modifying your steno theory first. After all, if you build your dictionary first and then change the way you write second, you will have no choice but to go back through your dictionary and change those entries you have recently entered. Making theory changes is the first step. Implementing the changes with consistency may take months or even years. Dictionary building is an ongoing process and ought to continue throughout your career as a CART provider.

After obtaining the above-listed types of information, enter the names into a CART job dictionary or your main dictionary. Be sure to enter odd-spelling names together *and* to have a unique way of writing the odd part of the name.
For example:
BET/TI/DAIFS can be global defined as Bette Davis.
BET/T*I can be global defined as Bette.

For example:
KO*EK/LAOER can be global defined as Cochlear when referring to the Cochlear Corporation.

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KOEK/LAOER can be globaled as cochlear, when referring to the ear. This distinction needs to be made when using a mixed-case display.

Slang/Poor Grammar

In CART, it is acceptable to write slang or poor grammar, and it is sometimes even necessary in order to truly convey the flavor of what has been said. However, it is possible to overdo it, writing every instance of poor grammar or lazy speech. For example, "gonna" vs. "going to," "runnin'" vs. "running," and "shouldn't of" vs. "shouldn't have."

The exception is when you are providing CART for song lyrics, particularly rap or hip-hop, where you will often hear things such as "doin'," "workin," etc. In this case, writing what you hear helps convey the flavor of the lyrics.

Some CART companies have written guidelines to help the CART provider with these decisions. It is best to check with your CART company for guidance.

Personal Views

As the CART provider, your duty is to write what is said, editing where necessary for clarity, translation, or brevity. While you may hear something during a meeting that offends you or that you personally disagree with, it still remains your duty to write what is said. For example, if you are providing CART for a political roundtable talk show, and the person speaking has political views that differ from yours, it is not acceptable to edit or drop any of the remarks where your opinion differs from that of the speaker. Likewise, if someone uses a word in a way that offends you, such as "God" or "Lord" used as an exclamation, or furthermore uses language that might be considered offensive, such as "ass" or "jackass," it is not acceptable to edit or drop this word.

Again, it is recommended that you check with your CART company for guidance. Although you should write what you hear and not edit out words that offend you personally or that you think may offend someone else, you need to be concerned about these words translating inadvertently as part of misstrokes or untranslates. Imagine providing CART for a church service or a solemn ceremony and having an offensive word erroneously appear as part of the text. The best way to prevent this from happening is to delete the obscenities and offensive words from your main dictionary and redefine that steno as a word that is not offensive. Then you should create a special obscenities dictionary, and in that dictionary, enter the offensive words using an alternative steno stroke that would take some effort to use and would not likely translate as part of untranslates or misstrokes. You load this dictionary for assignments where you feel it may be appropriate.

Below is a chart that suggests some alternative strokes to be entered in your obscenities dictionary and also offers suggestions on ways to enter the basic strokes in your main dictionary so that they do not inadvertently appear in your text. For example, enter **BAO*B = boob** in your obscenities dictionary and **BAOB = Bob or book** in your personal dictionary. Another option is to simply fingerspell all obscenities.

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Obscenities and Sensitive Words

WARNING: The following chapter contains obscene and offensive words. It is critical that these potentially offensive words be included in this manual in order to impart a possibly unforeseen aspect of providing CART.

In your main dictionary, the steno for obscenities should be defined as a clean word and fingerspelled if used.

Word	Suggested Steno in Obscenities Dict.	Steno in Main Dict. Defined As
ass asses	A*RS A*RS -S	AS, AE*US, A*S, 5-S, 5*S, 5EUS, 5E*US = **as, as-, or -as** ASZ, AE*USZ, A*SZ, 5-SZ, 5*SZ, 5EUSZ, 5E*USZ = **as, as- or -as**
bitch bitches bitching	PW*EUFP	PWEUFP, PWEUPBLG, PW*EUFP, PW*EUPBLG, 3WEU67, 3W*EU67, PWAOEUFP, PWAOEUPBLG, PWAO*EUFP, PWAO*EUPBLG, 3WA0EU67, 3WA0*EU67, PWEUT/-FP, PWEUT/*-FP = **bridge** *(Add one-stroke entries as necessary, e.g. PWEUFPS = **bridges**)*
boob boobs	PWAO*B PWAO*BS or /S	PWAOB, PWAO*B, 3W50B, 3W50*B = **Bob** PWAOBS, PWAO*BS, 3W50BS, 3W50*BS = **bobs**
cock cocks cocksucker	N/A N/A	KO*BG = **cock** KO*BG/S = **cocks** as in **cocks a gun** KOBG = **cook** KOBGS = **Cox** KOBG/S = **cooks**
dick	N/A	TKEUBG = **Dick** as in a name *Use judgment; e.g., if KICK trans as DICK often, may need to write DICK with asterisk*
cunt		KUPBT, K*UPBT, KUPBTS, K*UPBTS, KAOUPBT, KAO*UPBT, KAOUPBTS, KAO*UPBTS, KAOUPBTSZ, KAO*UPBTSZ, KU7B9, K*U7B9, KU7B9S, K*U7B9S, KU7B9SZ, K*U7B9SZ = **can't**
fag	TPA*G	TPAG, TPA*G, TPAEUG, TPA*EUG, 235G, 235*G, 235EUG, 235*EUG = **tag**
fart	TPA*RT	TPART, TPA*RT, TPAEURT, TPA*EURT, 235R9, 235*R9 = **part**

farts	TPA*RTS or /S	TPARTS, TPA*RTS, TPAEURTS, TPA*EURTS, 235R9S, 235*R9S = **parts**
fuck fucks fucked		TPUBG, TP*UBG, TPAOUBG, TPAO*UBG, 23UBG, 23*UBG, 2350UBG, 235*0UBG = **truck** TPUBGS, TP*UBGS, TPAOUBGS, TPAO*UBGS, 23UBGS, 23*UBGS, 2350UBGS, 235*0UBGS, TPUBGSZ, TP*UBGSZ, TPAOUBGSZ, TPAO*UBGSZ, 23UBGSZ, 23*UBGSZ, 2350UBGSZ, 235*0UBGSZ, TPUBGZ, TP*UBGZ, TPAOUBGZ, TPAO*UBGZ, 23UBGZ, 23*UBGZ, 2350UBGZ, 235*0UBGZ = **trucks** TPUBGD, TP*UBGD, TPAOUBGD, TPAO*UBGD, 23UBGD, 23*UBGD, 2350UBGD
gay gays	TKPWA*EU TKPWA*EUS or /S	TKPWAEU, TKPWA*EU, 2K3W5EU, 2K3W5*EU = **guy** TKPWAEUS, TKPWA*EUS, 2K3W5EUS, 2K3W5*EUS = **guys**
hell	HE*L	HEL = **hel or held**
kike	KAO*EUK	KAOEUK, KAO*EUK, K50EUK, K50*EUK = **kick**
motherfucker	N/A	
nigger	TPH*EUG/ER	TPHEUG/ER, THP*EUG/ER, 234*EUG/ER = **finger** **Note: check long vowel entries, can be entered as Niger**
piss pisses	P*EUS P*EUSZ	PEUS, P*EUS, PAOEUS, PAO*EUS, 3EUS, 3*EUS, 35EUS, 35*EUS = **miss or piece** PEUSZ, P*EUSZ, PAOEUSZ, PAO*EUSZ, 3EUSZ, 3*EUSZ, 35EUSZ, 35*EUSZ = **misses or pieces**
poop	PAO*P	PAOP, PAO*P, 3507, 350*7 = **pop**
psychobitch psychobitches	SAOEUBG OE PWEUFP SAOEUBG OE PWEUFP/S	N/A
punk-ass	PUFRPBG/A*RS	N/A

queer	KWAOER	KWAOER, KWAO*ER, KW50*ER, KW50*ER = **year**
queers	KWAOERS	KWAOERS, KWAO*ERS, KW50*ERS, KW50*ERS = **years**
shit		SHEUT, SH*EUT, SHAOEUT, SHEO*EUT, 14EU9, 14*EU9, 1450EU9, 1450*EU9 = **shut**
shits		SHEUTS, SH*EUTS, SHAOEUTS, SHEO*EUTS, 14EU9S, 14*EU9S, 1450EU9S, 1450*EU9S, SHEUTSZ, SH*EUTSZ, SHAOEUTSZ, SHEO*EUTSZ, 14EU9SZ, 14*EU9SZ, SHEUTZ, SH*EUTZ, SHAOEUTZ, SHEO*EUTZ, 1450EU9SZ, 14EU9Z, 14*EU9Z, 1450EU9Z = **shut or shuts**
slut	SHR*UT	SHRUT, SHR*UT, SHRAOUT, SHRAO*UT, 14RU9, 14R*U9, 14R50U9, 14R50*U9 = **shut**
tit	**N/A**	T*EUT = **tit** as in **tit for tat** TEUT = **tut**
twat		TWAT, TWAUT, TWA*T, TWA*UT, TWAEUT, TWA*EUT, 2W59, 2W5U9, 2W5*9, 2W5*UT, 2W5EU9, 2W5*EU9 = **twas**
whore	WHO*R	WHOR, WHO*R, HOR, HO*R = **who or hour**
whores	WHO*RS	WHORS, WHO*RS, HORS, HO*RS = **whose or hours**

Cock Words

Many permitted words contain the word part "cock." You may enter the following words in your main dictionary, both with an asterisk in the KOBG stroke and without:

Cockade	Cockatrice
Cock-a-doodle-doo	Cock-beaded
Cock-a-hoop	Cockboat
Cockaigne or Cockayne	Cock-brained
Cock-a-leekie	Cockchafer
Cockalorum	Cockcroft
Cockamamie	Cocked
Cock-and-bull story	Cocker
Cock-and-hen	Cockerel
Cock-a-whoop	Cockeye
Cockatoo	Cockeyed

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Cock-feathered	Cock's-foot or cock's foot
Cockfight	Cockshut
Cocking	Cockshy
Cockhorse	Cockspur
Cockle	Cocksure
Cocklebur	Cockswain (pronounced KOK/SIN)
Cockleshell	Cocktail
Cockloft	Cock-tailed
Cockney	Cock-throttled
Cockneyism	Cock-up
Cock of the rock	Cocky
Cock of the wood	Bibcock
Cockpit	Half-cocked
Cockroach	Petcock
Cockscomb	Turkey-cock

Parentheticals

Parentheticals are commonplace in CART and should be used to indicate non-verbal sounds that may or may not be apparent to the consumer. It is recommended that parentheticals be used sparingly. Either parentheses or brackets are used in CART in the United States.

- ❖ Some companies use this style: (Cheers and applause)
- ❖ While others use this style: (Cheers and applause)
- ❖ And others use this style (mainly Canada): (cheers and applause)
- ❖ A parenthetical should appear on a new line by itself (exception): (inaudible)
- ❖ No punctuation should appear inside or outside of the end bracket.

Although the following is a list of common parentheticals used in the industry, there are times when it becomes necessary for the CART provider to manually insert a parenthetical. Create briefs for some or all of the following common parentheticals and be prepared to write others not listed manually:

(applause)	(no audio) *(used during technical difficulties)*
(bell ringing)	
(cheers)	(phone ringing) or (cell phone ringing)
(cheers and applause)	(please stand by)
(fire alarm)	(silence)
(inaudible) or (comment inaudible *(used sparingly such as in press conferences)*	(singing)
	(sirens)
	(speaking in a foreign language)
(laughter)	(speaking Spanish)
(laughter and applause)	(talking at the same time)
	(whistle)

Another common parenthetical is (Speaking in a Foreign Language), which should be used when the CART provider cannot with certainty identify the language being spoken.

Parentheticals should be in mixed case or all caps, to match your format.

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Phonetics

CART providers must turn the phonetics feature on in their CAT software. Check with your vendor regarding tweaking the default phonetics table to match your writing style. For example, a default table may contain the entry **-PBLG** = j. Some writers may use **-PBLG** for "TH" sounds, and therefore, that entry would need to be changed from **-PBLG** = j to **-PBLG** = th. You should go through every line of the table and make changes as necessary. It may also be necessary to tweak the phonetics table going forward as you notice phonetic translates that do not produce a readable translation.

The phonetics table entries are not to be confused with a brief entry in a dictionary, a suffix, prefix or root word. In the example above, where **_-PBLG** can equal either the sounds of j or th, this will not interfere with or replace a define for **— PBLG** = knowledge, for example.

Editing, Paraphrasing, Fingerspelling, and Accuracy

One of the tools CART providers use to achieve accurate text is to edit or paraphrase. It is acceptable and appropriate to do so when the accuracy of your text would be otherwise compromised. However, contrary to popular belief, a good CART provider will always strive to write verbatim.

The skill of editing takes time and practice. Sometimes CART providers are trained first as court reporters, and as such, writing verbatim has always been the goal. However, there are times when getting every word will come at the expense of accurate translation. One tool that a CART provider can use when the dialog is too fast is to reword and/or to drop clarifying or unnecessary clauses and phrases, being mindful not to alter the intent of the speaker or the meaning of the text. The following are examples of when and how to edit or paraphrase.

Spoken:
>> Jane Sierpinski is the regional representative of the HKNC, Helen Keller National Center. **Jane Sierpinski's** region covers four states in the western region.

Edited/paraphrased:
>> Jane Sierpinski is the regional representative of the HKNC, Helen Keller National Center. **Her** region covers four states in the western region.

Spoken:
>> Judy will assist with group 2, which will include John, Jim, Tracy, Doug, and Wolfgang. **John, Jim, Tracy, Doug, and Wolfgang's group** will meet in the front left corner of the room.

Edited/paraphrased:
>> Judy will assist with group 2, which will include John, Jim, Tracy, Doug, and Wolfgang. **Group 2** will meet in the front left corner of the room.

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Accuracy

Editing and fingerspelling are crucial tools in CART to ensure the highest quality. Although it is acceptable and appropriate to replace names with nouns such as HE, SHE, and THEY after fingerspelling or building the name at least once, it is the goal, whenever possible, to give the consumer a name, even if the spelling is not readily available.

Spoken:

>> A professor from Columbia University was introduced as the new dean of students; 58-year-old **James Goforth** will be installed at the end of the month.

Fingerspelled:

>> A professor from Columbia University was introduced as the new dean of students; 58-year-old **James G-o-f-o-r-t-h** will be installed at the end of the month. Note: The hyphens or stitching do not appear when fingerspelling a word or name because it is not in your dictionary.

Glued:

>> A professor from Columbia University was introduced as the new dean of students; 58-year-old **James Go (delete space) forth** will be installed at the end of the month.

Edited:

>> A professor from Columbia University was introduced as the new dean of students; **he** will be installed at the end of the month.
>> A professor from Columbia University was introduced as the new dean of students; 58-year old James will be installed at the end of the month.

Fingerspelling takes practice. Running through some basic finger drills each day is recommended. Start by going through the alphabet, but do it slowly and return all fingers to the home-row key between each stroke. Next, pull out a book or magazine, and practice fingerspelling words randomly. Finally, close your eyes and practice fingerspelling names or words that are familiar to you, visualizing the letters in your mind.

Alphabets

Alphabets are an integral part of CART. Most CART providers have several alphabets that are used regularly. Check with your software vendor for dictionary definitions. The following is a list of examples of some common alphabets:

<u>Steno Examples</u>	<u>English Display</u>
A-FPLT	A. (acronyms with periods)
A-FRPBLGTS	A- (stitching)
A*	A (capital letter that glues to other letters and numbers)

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A-FRPB	"A" (quoted letters)
A-RBGS	a (lower case letter that glues to other lowercase letters)

Flush (or Forceout) Stroke

In CART, it is important to be able to force out your last strokes so that the complete text is put on the screen. You can choose any stroke you like, but the most commonly used stroke is *#, which is **ASTERISK** and **NUMBER BAR**. If you are writing at a steady pace, it may not be necessary to force out. However, if you reach the end of a sentence, stroke a period, and must wait for the next sentence to begin, you must flush out the pending strokes. Practice flushing often so that it becomes a regular part of your writing. Check with your software vendor for the dictionary definition.

Clearing Screen

"Clearing" simply refers to clearing the screen of text.

It is appropriate to clear your screen in between two distinct events, such as the beginning of a new class or a new seminar.

It is appropriate to clear your screen when there is a captioned video being shown.

It is appropriate to clear your screen if you have such an egregious error and you cannot delete it. An example would be a body part or swear word that was not said.

A general rule when clearing is to wait at least three seconds before doing so or read the last lines that appear on the screen to make sure there is enough time for them to be read before clearing.

Scripting in CART

Creating Script Files

Oftentimes, CART providers are provided with a script. Some CAT software allows the CART provider to send the script file one line at a time with a single keystroke. Check with your CAT software vendor to see if scripting while providing CART is a feature.

There are three options when receiving a script:

- Convert script from Word or other program into CAT software and send file.
- Start realtime session in realtime software and create script file by writing provided script, edit new file, and send.
- Prep from provided script and write without sending script file.

Some scripts contain information that the CART provider doesn't need, such as stage direction and other instructional type material. In this case, it would be time-consuming to convert and edit the provided script, and a CART provider may be better off either prepping from it or writing it into a new script file.

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Other scripts may be perfect for converting and importing into a CART provider's software but may arrive at the last minute, in which case prepping from it would be the best decision. The most important thing to remember is if a script is provided and there is ample time to convert it and import it or to write it and create a new script file, that is the ideal scenario. Sending a script file that has been edited beforehand will almost always yield a cleaner or more accurate product than writing live.

When editing a script to be imported into realtime software, the text must match the display preferences of the CART company, i.e., ending punctuation on format, speaker IDs/tokens, and mixed case or all caps.

Scripting and Realtiming
The most important thing to remember when sending a script file is to wait until the second to last word of a line is spoken before sending the line. Oftentimes scripts are deviated from and many people ad lib. A CART provider could end up sending words that were not spoken. It may be necessary to write what is being said rather than send it from the script file in the event the words spoken do not match the words in the script. This exercise is a unique skill and should not be attempted without practice. The end result should be seamless, and there should not be long pauses between live realtime writing and script sending. Practice going back and forth between writing and sending, moving the cursor from the line that is being spoken to the next line that will be sent. If ever you become lost in the script, abandon it and continue writing live realtime until such time that a search can be performed within the script, perhaps at a break.

Once a CART provider becomes skilled at writing and scripting, it will be possible to quickly search for keywords in the script to get back on track; however, a new CART provider should not attempt this if the result is missed text. In addition, a skilled CART provider will be capable of editing text in the script on the fly, making small corrections before sending a line.

Sending Script Files
Most realtime software has a macro or command for sending script. It is also possible to create a steno stroke associated with that macro or command to send script. Check with your software vendor for more information on loading and sending script files.

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Quality Control

CART quality considers three parts in its guidelines: completeness, accuracy, and timeliness. CART is considered to be complete if the text is legible, readable, makes sense, and is nearly verbatim so as to convey the essential information being given.

The following items are to be considered when determining the completeness of CART:

- Realtime text is complete and appears continuously from the start to the end of the event.
- Nonverbal communications affecting the substance and flavor of the event are included.
- The realtime text contains meaningful punctuation, and speakers are identified by symbol or name.

The relative difficulty of a CART event will affect the completeness and quality of the realtime text. Factors that can impact the quality and completeness of realtime text are as follows:

- Incomplete preparation material
- Equipment failure
- Clarity of audio
- Overlapping speakers
- Speed of the speakers
- Density of material
- Speaker accents

A CART provider has met the accuracy guideline if, after review, it is determined that the text meets a minimum accuracy level of 98 percent TAR.

Total Accuracy Rate (TAR) Formula

Convert the raw transcript (unedited) into a .txt or .rtf file and open in Microsoft Word. Count all the errors, keeping in mind that a two-stroke word that does not translate if broken into two English words counts as two errors. Multiply the number of errors by 100. Divide that number by the total word count, which can be ascertained in Word by clicking on Tools and then Word Count. Then subtract that number from 100. That is the score. A score of 98 percent is considered entry-level CART quality. The ultimate goal, however, is above 99 percent.

A new CART provider should track his or her own progress by reviewing and scoring raw transcripts frequently. It is helpful to categorize errors to identify areas of weakness. See Figure 1.

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CART Trainee Correction Sheet

Speaker ID	Wrong Word	Plural	Spelling/Dict Entry
|	⌢⌢ ⌢⌢		||
Misstroke	Apostrophe	Numbers	Quotes
⌢⌢ ⌢⌢ |||		|||	
1,2 Word/Hyphen (1/2 point)	Extra/Missing Word	Inflected Endings	and/an
|		||	
Punctuation (1/2 point)	Stack/Split Stroke	Style	Other
⌢⌢ ⌢⌢ |		||	

Errors: 30
Word Count: 2,000
Errors x 100:   3,000
divided by Word Count: 1.5
100 – 1.5 = Score: **98.5%**

The following list includes items that should be counted as errors in determining accuracy:

- ❑ Omitted or improperly used possessives
- ❑ Missing essential words
- ❑ Extra words or strokes
- ❑ Misstrokes
- ❑ Misspelled words that were not fingerspelled
- ❑ Untranslates (unless it results in the correct spelling of a phonetic output)
- ❑ Wrong numbers
- ❑ Wrong words

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❑ Homophone conflicts
❑ Speaker ID errors
❑ Missing or incorrect punctuation, including hyphens and slashes
❑ Extra/missing space
❑ Style

CART is considered to have met the timeliness guideline if the text is delivered with a minimum delay, trailing the audio by an amount of time that the delay, in and of itself, does not significantly impact the meaningfulness of the text.

When an incorrect word is displayed, it is acceptable to use dashes and rewrite the word. Alternatively, a correction stroke (an asterisk) is used to remove the incorrect word and then the correct word is rewritten. A CART provider should be mindful that deleting and then rewriting a word multiple times may result in causing the consumer confusion, and thus ought to be avoided. If dashes are used to make corrections, the incorrect word prior to the dashes may not be counted as an error if the word following the dashes displays correctly.

Style
There are certain style guidelines that are generally accepted in the CART industry. Some of the generally accepted style guidelines include items such as making the screen viewed by the consumer as easy to read as possible by getting rid of extraneous items, such as line numbers, page numbers, page breaks, toolbars, and task bars. The following guidelines should be used in the event that a CART provider is not provided specific style guidelines by the CART company.

Literal Case/Mixed Case
In the absence of specific directions from the CART company, it is recommended that CART providers display text in mixed case letters. Mixed case letters are easier to read and the trend is to stream text in mixed case letters. Main personal dictionaries and job dictionaries should be programmed in mixed case letters.

With that said, however, there are still regional trends and consumers or CART companies may prefer all caps. Towards that end, then, special format symbols are needed to force lowercase letter(s) when displaying in all caps. Check with your software vendor and user guide to properly program words like those listed below. Check spelling before adding format symbols.

English	Display
al-	al-SHEIKH
De	DeVRY
Di	DiCAPRIO
Du	DuPONT
La	LaMONT
Le	LeTOURNEAU
Mac	MacKENZIE
Mc	McDONALD
(sp) de (sp)	PONCE de LEON
(sp) de la (sp)	VIA de la VALLE
(sp) del (sp)	CAMINO del la PLAZA

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von   CLAUS von BULOW

(sp = space)

Add the following entries to your dictionary, forcing the first letter to be lowercase and/or create a lowercase "i" and "e" prefix to write before a word to create these (and some yet-to-be-invented) words. Suggested strokes are SMAOE and SMAOEU for the small "i" or "e" attached to the following capped word.

iTV	iBook
eBay	iTunes
iPod	iPhone
iPaq	iTouch
iMac	iPad
iVillage	Wii

Add the following entries to your dictionary, forcing the lowercase letter(s) to be lowercase:

TiVo	DirecTV	Rx
VoIP	Ph.D.	

When displaying in all caps, if an acronym can also be an English word, it should be written with periods. For example: I.T. Department, S.W.A.T., or D.O.T.

Measurements and Heights

Use figures for feet and inches, but use words for just feet.

> She is just under 5'2"; short for her age
> The dog jumped 21'4" off the dock
> He was seven feet tall

Use a lowercase X surrounded by hard spaces/sticky spaces when spoken as "BY"

> 4 x 4
> 2 x 4

Numbers

For numbers ten and under, use words **(Exception: Wind speeds and temperatures).**
Some companies' style requires the use of digits for numbers ten and up and words for nine and under.

For numbers 11 and up, use figures up to 999,999.

Use figure plus the word million, billion, trillion except if thousands are spoken.

4 million	8,507,444
12 billion	12,600,500,000
100 trillion	

Use .25 for quarter, .5 for half and .75 for three-quarters when preceding million, billion, trillion.

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4.5 million
3.75 trillion
11.25 gazillion

Fractions

Write out fractions except when accompanied by a whole number. (Exception: Stock Market; see below.) Use decimals for tenths, hundredths, and thousandths.

One-half
Two-thirds
Two and a half should be written as 2 1/2
Eight and a quarter should be written as 8 1/4
Three and a third should be written as 3 1/3
Eight tenths should be written as .8
Five hundredths should be written as .05
Seven thousandths should be written as .007

Avoid the temptation to enter steno outlines in your dictionary to display the above examples. Rather, write it out manually, including decimals and/or slashes.

Stock Market

Do not use commas unless the Dow is over 10,000; NASDAQ and S&P do not take a comma.

The DOW is down 30 points at 12,222.
The NASDAQ is down 11 points at 2583.
The S&P 500 lost 4 1/3 to 1162.80.
Your local index fell 5/8. (not 5/8ths or 5/8s)

Money

Use figures under 1 million.
Two dollars and fifty cents should be written as $2.50.

Write the dollar sign, even if it is not spoken and if the intention is clear.
Four million should be written as $4 million.

Use .5 for "half."
Eight and a half dollars should be written as $8.50.
Six and a half billion dollars should be written as $6.5 billion.
Seventy-five cents should be written as 75 cents.
A dollar fifty should be written as $1.50.
Four and a half dollars should be written as $4.50.

Times

Use figures for all times.
"We hope you'll join us at 11."
This should be written as "We hope you'll join us at 11:00."

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Ages

Use figures when referring to ages.
>   She was 4 1/2 years old.
>   He was 8 years old.
>   The 5-year-old child was presumed missing.

Punctuation

Periods, question marks, and exclamation points may or may not be followed by a new line and will be determined by the CART company's preference.

You may use semicolons, colons, exclamation points, or ellipses where appropriate.
>   4:00 PM
>   John 4:13

When using colons in speaker IDs, only one space follows:
>   >> JOHN DOE: My name is John Doe.

Plurals and Possessives

Use lowercase S or apostrophe S, depending on the company's style, with acronyms and numbers. Use S apostrophe in words and acronyms ending in S. Add -ES to names ending in S to make them plural. Create a steno stroke for lowercase S and -ES so as not to rely on software intelligence. Create a steno stroke for -S to add to names when you do not want the software to change the spelling.

DVDs	DVD'S
1970s	1980'S
CBS'	ABC'S
Witness'	Joneses (more than one Jones)
Elvis'	Jones' (belongs to John Jones)
Kennedys	Joneses' (belongs to the more than one Jones)
20s (temperatures)	20'S
'20s (1920s)	'20'S

Speaker IDs

Use Speaker IDs, or tokens, in some settings, depending on the CART company's preference. There is only one space after the colon.

>   >> Instructor:
>   >> MALE STUDENT:
>   >> MR. SMITH:
>   >> KENNETH SMITH:
>   >> Judy Jones:

Quotations

Use quotations around movie, show, song, book, and newspaper titles, as well as for nicknames within a name.

>   "Shrek 2" topped sales at the box office this weekend.
>   "The Story of Helen Keller" is an autobiography.

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"Heather Has Two Mommies" was banned from the library.
"The New York Post" reported the takeover.
Sean "P. Diddy" Combs created the clothing line Sean John.
P. Diddy is the executive producer of "Making of the Band."
"Doubt" won the Tony for best show on Broadway in 2005.

Slashes

Use slashes for dates and fractions.

9/11/01
2/3
50/50

Phone Numbers

Use hyphens to separate numbers.
555-1212
1-800-222-TIPS

Percentages

Use the percent symbol.
25%

Convert fractions to figures.
8.5% (spoken 8 1/2 percent)
.4% (spoken 4/10 of a percentage point)

Web Addresses

Create strokes for .com, .org, .gov, .net, .info, .tv, .edu, .ca, etc.
(Some companies use all lowercase.)
WWW.FCC.GOV
www.fcc.gov

Use delete space stroke between words in Web addresses. Some CART software includes a "glue together" or "stick together" feature that can be incorporated into a dictionary entry. Stroke the entry before a Web address to glue each word in the address together. Include a command in the Web site extensions to turn off the "glue together" or "stick together" command. For example, www.ncraonline.org

It is very important to either include the "glue off" command in the definition or to stroke the command manually after the Web site name, or the remainder of the realtime text will glue together.

Scripture Readings

Use chapter and verse setup from Bibles.
1 Corinthians 4:1-4 (spoken as First Corinthians Chapter 4, verses one through four)
1 Corinthians 4:1-4 (spoken as First Corinthians 4, one through four)

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CART Provider's Checklist

To reduce the risk of human error, a checklist may be used prior to beginning a job. When working onsite, a CART provider should be set up and ready to go 30 to 60 minutes prior to the beginning of the job. When working remotely, a CART provider should be set up and ready to go 10 to 15 minutes prior to the beginning of the job.

Onsite One-on-One CART

1. ___Boot up computer and turn on steno machine
2. ___Start CAT software
3. ___Load job-specific dictionaries
4. ___Initialize realtime file
5. ___Test speaker IDs
6. ___Test job-specific briefs
7. ___Set display for readability and customer preference
(Upon completion of session)
8. ___Terminate realtime session
9. ___Save to text file, if requested
10.___Scan file for untranslated strokes and spellcheck
11.___E-mail file, if requested

Onsite Overhead/Projected CART

1. ___Connect to projector and turn on projector
2. ___Boot up computer and turn on steno machine
3. ___Start CAT software
4. ___Load job-specific dictionaries
5. ___Initialize realtime file
6. ___Test speaker IDs
7. ___Test job-specific briefs
8. ___Set display for readability and customer preference, testing that the right margin does not "bounce" during realtime
9. ___To display overhead, toggle to display projection
10.Position CART screen so that the consumer can maintain "line of sight" between the screen, Power Points, speaker, and sign language interpreters
11.If this is no PowerPoint screen, then place the CART screen beside the speaker or directly behind and above the speaker
12.   When applicable, plug in headphones to audio board or computer
(Upon completion of session)
13__Terminate realtime session
14.___Save to text file, if requested
15._Scan file for untranslated strokes and spellcheck
16.___E-mail file, if requested

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Remote CART
1. ___Boot up computer and turn on steno machine
2. ___Open streaming text application
3. ___Start CAT software
4. ___Load job-specific dictionaries
5. ___Initialize realtime file
6. ___Test speaker IDs
7. ___Test job-specific briefs
8. ___Load scripted files, if any, and if software allows
9. ___Plug headphones into the computer (if using programs such as Skype or AIM to acquire audio) and activate the audio program
10. ___Plug headphones into auto coupler/amplifier or phone audio system (if using the phone to acquire audio) then dial the call-in number
11. ___Verify with consumer that text is streaming
(upon completion of session)
12. ___Disconnect audio
13. ___Terminate realtime session
14. ___Save to text file, if requested
15. ___Terminate the streaming text application
16. ___Scan file for untranslated strokes and spellcheck
17. ___E-mail file, if requested

Troubleshooting

Hardware

No power to the steno machine.
1. Is steno machine plugged in to the wall or power source?
2. Is the power strip plugged into the wall or UPS and it is turned on?

No steno to the computer.
1. Is the port on the writer working?
2. Is the realtime cable damaged?
3. Is the realtime cable or wireless device plugged in and seated tightly?
4. Are any pins in your port bent?
5. Is your writer in realtime mode?
6. Are the drivers for your PCMIA serial card or USB-to-serial adapter installed?
   7. Check the Device Manager to see what COM port you are using.
7. Is the writer/adapter recognized in the Device Manager?
8. Is the USB port you are plugged into working?
9. Are there there other wireless devices nearby that could be interfering?

AUDIO ISSUES

Landline audio is poor quality
1. If phone is plugged into a wall jack, is there a dial tone?
2. Is there long distance service?
3. Is there excessive "white" noise on the line?
4. Is the physical phone line in good shape? No bends or kinks?
5. Is the plastic piece on either end tightly plugged in?

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6. Disable call waiting, voice mail messaging or other extra services.

Voice are muffled using either landline or VoIP lines
** Questions for the CART consumer:
1. Is the mic turned on and plugged into the correct place?
2. Is the battery on the mic and the receiver charged?
3. Is the phone on mute?
4. Can the mic be moved closer to the person speaking?

** Questions for the CART provider:
1. Is the headphone plugged tightly into the phone or computer jack?
2. Try disconnecting and reconnecting.
3. Check headphone battery.
4. Is the phone on mute?

PHONE LINE ISSUES

If the phone line is not working, long distance phone connection can be made using a calling card.
1. Is the phone card charged with minutes?
2. Try redialing the numbers.
3. Check to see if you need to dial an 8 or a 9 to get an outside line first.
4. Make sure the phone card has not expired.

Computer Issues

If the computer system is running slowly:
1. Are background scans turned off? Examples: Virus scans, automatic updates, backup programs, and firewalls.
2. Run a system scan.
3. Defrag your hard drive.
4. Archive and delete old files to free up memory.

** It is recommended that you keep important phone numbers on hand and/or programmed into your phone or cell phone, i.e., CART software vendor support, CART companies you provide services for, other CART providers you can contact to relieve you if you cannot resolve technical issues, computer manufacturer technical support, etc.

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Working with Sign Language Interpreters

The Registry of Interpreters for the Deaf, RID, is an organization whose goal is to ensure effective communication via excellence in the delivery of interpretation and transliteration services between people who are deaf or hard of hearing and people who are hearing.

To quote their philosophy, **"**The American Deaf community represents a cultural and linguistic group having the inalienable right to full and equal communication and to participation in all aspects of society. Members of the American Deaf community have the right to informed choice and the highest quality interpreting services. Recognition of the communication rights of America's women, men, and children who are deaf is the foundation of the tenets, principles, and behaviors set forth in this Code of Professional Conduct.

The ethical tenets that guide sign language interpreters also apply to CART providers. These tenets include CART providers who:
1. Keep communication and job information confidential
2. Develop and maintain professional skills and knowledge
3. Conduct themselves in a professional manner at all times
4. Demonstrate respect for consumers, colleagues, interns and students of the profession
5. Maintain ethical business practices
6. Engage in continued professional development

To explore a little further how to work with a sign language interpreter, the most important thing is that you and the sign language interpreter are both on the same team and have the same goal of communication access for the consumers who are deaf and hard of hearing. Your role is not one of advocacy, but rather one of empowerment of the consumer to "speak up for themselves and be heard."

Prep materials should be shared with sign language interpreters. Both sets of professionals need the same information and it is needed ahead of time. While a CART provider will stroke out a name or phrase and then program it into the dictionary, a sign language interpreter will sign the word, see how well it flows and how readable the sign or series of signs are.

When positioning the CART screen in conjunction with the sign language interpreter, be mindful of a few things. One, lighting. The sign language interpreter needs to be well lit from above. Lighting from behind will cast unwanted shadows and render the signs unreadable. The CART screen needs to darkened. Light from directly above will wash out the CART screen.

Eye glance. The consumer ideally will see the speaker, the sign language interpreter and the CART screen in one eye glance. When the CART screen is in one corner, away from the presenter and the PowerPoint, the action of looking at the CART screen, then at the PowerPoint and the sign language interpreter and the presenter as eyeball ping-pong. Eyeball ping-pong is not a desirable setup! Ideally the CART screen and the PowerPoint screen will be side by side, in front of the

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room. The presenter will be at the podium and the sign language interpreter will be positioned near the presenter or sometimes even between the two screens.

Switching: The sign language interpreter switch off with a partner every 20 to 30 minutes. There needs to be a clear pathway and a light of sight for the team to work effectively, so be sure the CART equipment is not in their way.

Support: There are times when a speaker has a heavy accent and is using sign language as well as speech. Sometimes a sign language interpreter will come and sit near the CART provider and give all the words or just a few missed words to the CART provider. In turn, there will be times when a sign language interpreter will turn to the CART screen and point to a series of names or words, or they will interpret off of our CART screen. Again, it is a team effort with the goal of effective communication.

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Resources and Links
Resources
NCRA www.ncraonline.org, CART Community of Interest
- CART Providers Manual
- CART Providers Bill of Rights
- NCRA's Guidelines for Professional Practice
- NCRA CART Community of Interest Consumer Awareness and Recommended Style and Format Guidelines for CART Providers.

Yahoo! Broadcast Captioners Group
http://groups.yahoo.com/group/broadcastcationers/

Deaf and Hard-of-Hearing Organizations
Alexander Graham Bell Association for the Deaf and Hard-of-Hearing
AG Bell helps families, health-care providers, and education professionals understand childhood hearing loss and the importance of early diagnosis and intervention. Through advocacy, education, research, and financial aid, AG Bell helps to ensure that every child and adult with hearing loss has the opportunity to listen, talk, and thrive in mainstream society. With chapters located in the United States and a network of international affiliates, AG Bell supports its mission: *Advocating Independence through Listening and Talking!*
www.agbell.org

American Speech-Language-Hearing Association (ASHA)
ASHA is the professional, scientific, and credentialing association for more than 127,000 members and affiliates who are audiologists, speech-language pathologists, and speech, language, and hearing scientists.
http://www.asha.org/default.htm

American Academy of Audiology
This academy has resources for consumers who want to learn more about hearing and balance, students thinking about a career as an audiologist, and professionals with questions about technical topics in audiology.
www.audiology.org

American Hearing Research Foundation (AHRF)
AHRF serves two vital roles: to fund significant research in hearing and balance disorders, and to help educate the public.
www.american-hearing.org

American Sign Language Info (ASLInfo)
ASLInfo focuses on ASL, interpreting, and deaf-related information.
www.aslinfo.com

American Society for Deaf Children (ASDC)
ASDC supports and educates families of deaf and hard-of-hearing children and advocates for high-quality programs and services.
www.deafchildren.org

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Association of Late Deafened Adults (ALDA)
ALDA's membership is international in scope. ALDA works collaboratively with other organizations around the world, serving the needs of late-deafened people. It extends a welcome to everyone, late deafened or not, who supports its goals.
www.alda.org

Canadian Association of the Deaf (CAD)
CAD provides consultation and information on Deaf needs and interests to the public, business, media, educators, governments, and others. It conducts research and collects data regarding Deaf issues; issues reports on these studies and provides expertise on them; develops and implements pilot programs; and offers assistance to Deaf organizations and service agencies across the country. It also provides a major library and resource center on deafness at its office in Ottawa, Ontario.
http://www.cad.ca/en/

Canadian Hard of Hearing Association (CHHA)
CHHA is a consumer-based organization formed by and for hard-of-hearing Canadians. CHHA works cooperatively with professionals, service providers, and government bodies, and provides information about hard-of-hearing issues and solutions. CHHA is Canada's only nationwide nonprofit consumer organization run by and for hard-of-hearing people. CHHA works to eliminate the isolation, indignation, and frustration of hard-of-hearing and deafened persons by assisting in increasing personal self-esteem and confidence, which will lead to total integration in society.
http://www.chha.ca/chha/

International Federation of Hard of Hearing People (IFHOH)
IFHOH provides a platform for cooperation and exchange of information between hard-of-hearing organizations. It promotes greater understanding amongst hard-of-hearing people throughout the world.
www.ifhoh.org

Hearing Loss Association of America (HLAA, formerly SHHH)
HLAA is the nation's largest organization for people with hearing loss. The Hearing Loss Association of America exists to open the world of communication for people with hearing loss through information, education, advocacy, and support.
www.hearingloss.org or www.shhh.org

Hearing Loss Web
Hearing Loss Web provides information and support for hard-of-hearing and late-deafened people.
www.hearinglossweb.com

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National Association of the Deaf (NAD)
NAD advocates for the rights and quality of life of deaf and hard-of-hearing individuals in the United States.
www.nad.org

National Institute on Deafness and Other Communication Disorders (NIDCD)
NIDCD is one of the institutes that comprise the National Institutes of Health (NIH). NIH is the federal government's focal point for the support of biomedical research. NIH's mission is to uncover new knowledge that will lead to better health for everyone. Simply described, the goal of NIH research is to acquire new knowledge to help prevent, detect, diagnose, and treat disease and disability. NIH is part of the U.S. Department of Health and Human Services.
www.nidcd.nih.gov/health/hearing/asl.asp

Telecommunications for the Deaf & Hard of Hearing, Inc. (TDI)
TDI's mission is to promote equal access in telecommunications and media for people who are deaf, hard-of-hearing, late-deafened, or deaf-blind.
www.tdi-online.org

Footnotes

[1] www.deafculture.com/definitions. Accessed 3/8/10.
[2] National Technical Institute for the Deaf
[3] Disability Resource Center – Typewell Services
[4] Wikipedia
[5] http://www.hearingaidscentral.com/howtheearworks.asp (Figure 1)
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[10] http://www.hearingaidscentral.com/howtheearworks.asp
[11] www.asha.org
[12] Ibid.
[13] Ibid.
[14] Ibid.
[15] Davis, C.D., Atcherson, S.R., & Johnson, M.L. (2007). *Demystifying Hearing Assistance Technology: A guide for service providers and consumers*. Northridge, CA: PEPNet West, National Center on Deafness, California State University, Northridge, p.6. Accessed 3/8/10.
[16] National Court Reporters Association, http://ncraonline.org/NCRA/codeofethics/General/default.htm#section3

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