

Caption This: Television Captioning and Description in the Digital Age



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Often on websites like Craig's List someone will submit a photo with a request: "Caption this!" In minutes captions appropriate and inappropriate, artful and artless, flood the site. If only the closed caption and description spigots were so productive for deaf and blind television viewers in the digital age. The truth is, from the 1920s onward, especially following the stunning 1927 success of *The Jazz Singer*, the first major "talking" motion picture, getting captions, and later descriptions, on movie and TV screens was and is now again a struggle.

That struggle has been marked by a few significant victories and one major triumph – the passage of federal legislation in 1958 mandating a free-loan service of captioned films for the deaf. The law also called for the creation of an organization, the Captioned Films for the Deaf (CFD) program, to provide subtitled Hollywood films for deaf individuals. However, teachers and other academic professionals looked past Hollywood and were quick to recognize the potential of captioned films and other visual media as untapped educational resources. Consequently, Congress amended the original law to authorize the acquisition, captioning and distribution of educational films.

CFD introduced videocassettes in the mid-1980s and was renamed Captioned Films/Videos. Throughout the remainder of the 1980s and into the following decade, 16mm films were withdrawn from the CFV

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collection and replaced by VHS tapes. In the late 1990s DVD, interactive CD-ROM and streaming media gradually supplanted their predecessors as formats of choice in homes and schools nationwide. To reflect this evolution CFV was renamed again, becoming the Captioned Media Program, a change that paralleled an intensifying focus on accessible media for k-12 students and their parents and teachers. In 2006 the CMP began serving students with vision loss and was renamed the Described and Captioned and Media Program (DCMP).

Yet despite consistent advocacy and 50 years of federal legislative support about 75% of movies and educational media materials remain uncaptioned. In addition, unaddressed by federal law, description lags far behind closed captioning in a push for universal usage. Hardly any media is described, with less than 5% of classroom educational media and almost nothing on television being accessible. This leaves deaf and visually impaired students and television viewers to face an uncertain digital future. Originally designed for analogue televisions, captioning decoder and description technology presents new challenges in new high definition TVs that are increasingly popular among consumers and schools. This issue defines and examines captioning and description as forms of assistive technology and their current and potential impact on educational opportunities for deaf, hard of hearing, blind, visually impaired and other k-12 students with and without disabilities.

THE STARKS SPEAK

The Described and Captioned Media Program (DCMP), a federal grant administered by the National Association of the Deaf, is a family affair. Bill Stark has been the project director and wife Dianne his deputy since the family migrated to South Carolina from Illinois in 1991. Son Jason quickly joined them after college graduation, and is the program's IT head. Bill and Dianne are trained teachers.

With a longtime interest in education and technology, including AT, Bill taught at the college level and earned a masters degree in Instructional Media

and Technology. His interest in disabilities came while he was a graduate assistant and included a career changing chance encounter with Dr. Frank Withrow, a well-known special education and instructional technology pioneer of the 1960s. Recalls Bill: "I invited him into my office. He began to talk to me about the needs of deaf students as well as the needs of young people with other disabilities. He really piqued my interest. He ultimately offered me a position in media working with deaf and hard of hearing students and deaf/blind students, a position I accepted." According to Bill, Dr. Withrow and Dr. Robert Stepp of the University of Nebraska "were an inspiration to us all. They did early 8 mm. film loops teaching deaf kids to speech-read, learn sign language and learn language in general. More than once during a presentation one or both gave, the audience, consisting of teachers and administrators, spontaneously broke into applause. I have never experienced that since--an audience spontaneously breaking into applause when an educator or technologist is speaking."

Dianne Stark's career choice was made sooner than her husband's. As early as high school she knew she wanted to be a teacher. In high school, she recalls, "I was fortunate to have completed enough credits to allow me to do exploratory teaching in my senior year. I'd go off campus to assist a teacher elsewhere in the community. I assisted in a class with blind students, deaf students and students with various learning disabilities. The teacher responsible for the classroom with deaf students really turned me on. She was a wonderful teacher." That experience convinced Dianne to choose deaf education as a career. "My first job was at the Illinois School for the Deaf where I used the Captioned Films for the Deaf Program's 16mm films with my students for 15 years. Films eventually evolved into videos and I began writing lesson guides and teaching materials for the Captioned Films for the Deaf and then for the Captioned Media Program. My first year of teaching I met the director of media services at the Illinois School for the Deaf who is sitting beside me right now: Bill Stark."

Says son Jason, who taught computer training courses to staff at the Illinois School for the Deaf while still in high school: “My love for technology is in my genes. I had a connection to deafness growing up, starting with deaf babysitters as a young child and then as a high school student assisting with the Captioned Films/Videos workshops at the Illinois School for the Deaf. While in college, I was given the unique opportunity to perform a key role in the pioneering technology developments in this program, and this evolved into what I am doing now. We’ve since added to our number of first-ever AT accomplishments, and it is great to have a job that I love and know that I’m helping people.”

Supporting our interview with the Starks are resources aimed at helping readers understand the function and value of captioning and description. We also feature members of our Knowledge Network. The members spotlighted this month focus on captioning and description as assistive technology. We invite you to contact these members for further information. Please share this newsletter with other organizations, families and professionals who may benefit from it. We invite you to visit us at <http://www.fctd.info>. We welcome feedback, new members and all who contribute to our growing knowledge base.

CAPTIONING AND DESCRIPTION AS AT: “YOU AIN’T HEARD NOTHING YET!”

AN INTERVIEW WITH DESCRIBED AND CAPTIONED
MEDIA PROGRAM (DCMP) ADMINISTRATORS BILL,
DIANNE AND JASON STARK



Bill Stark



Dianne Stark



Jason Stark

In *The Jazz Singer*, the 1927 pioneer talkie starring Al Jolson, the star defiantly declares to the audience, “You ain’t heard nothing yet!”

According to DCMP project director Bill Stark, “Jolson was more prophetic than he knew.” Jolson’s talkie, Bill claims, put a temporary end to deaf persons’ enjoyment of the movie experience. “Instead of captions, there was sound, talking. At the same time, however, the advent of talkies opened up the experience to include blind persons, whose disability had excluded them from the silent movie experience.”

The Jazz Singer also marked the beginning of a struggle to mandate captions for movies and, later, description, a movement that would in time benefit not only moviegoers and television viewers but also generations of students with disabilities. With the ongoing transfer from analogue to digital television, that struggle continues.

“THAT ATTITUDE RANKLES ME.”

In the beginning, more than 60 years ago, a private corporation called Captioned Films for the Deaf, Inc. (CFD), took center stage. A company whose

purpose was to caption entertainment features for deaf individuals, CFD was begun in the late 1940s by the superintendents of two residential schools for the deaf. The founders' first initiative was an attempt to insert captions between the frames of films. Unable to fund their corporation through private donations, however, the founders lobbied for federal assistance.

From the outset, recalls Bill Stark, "deaf individuals were intensely interested in the CFD concept." Finally, after federal funding was obtained in 1958, the founders successfully pushed for educational materials to be included, "because it was clear that hard of hearing and deaf children and adults in learning environments were in great need of accessibility."

During the 1950s, as television quickly gained enormous popularity, "deaf individuals were unable to share in the enjoyment of the new visual media," Mr. Stark notes. Open captioning was tried for a time. "Open captioning does not necessitate pushing a button or employing a decoding device in order to gain access," he explains. "Today decoder chips are built into televisions as required by law. Prior to passage of the Decoder Circuitry Act in 1990 decoding was performed by a device inside a box perched on top of the TV."

With no chip or decoder, open captions, which were visible to all viewers, were tried in the late 1970s, primarily by PBS in cooperation with ABC. "The six o'clock ABC nightly news was taped and captioned as fast as possible and then rebroadcast on PBS the same day, often as late as 11 PM," Bill recalls.

Bill Stark was director of media services at the Illinois School for the Deaf and his wife, Dianne, was a teacher of deaf students then. "We encouraged our students to



AN ELEMENTARY SCHOOL CLASS VIEWS ONE OF THE 4,000 FREE-LOAN DCMP ACCESSIBLE MEDIA TITLES

watch the captioned version, but it was difficult for the kids to remain awake and be alert that late. It was determined, however, that many non-deaf viewers found the open captions to be intrusive. To this day that attitude rankles me, Dianne and Jason."

In order for open captioning to continue, Bill says, all the constituents, including sponsors, network executives and viewers had to be comfortable with it. "It was decided that a way had to be developed wherein viewers were not obligated to watch open caption television," Bill remembers.

The result was closed-caption technology created by federal CFD director Dr. Malcolm Norwood and his team. "Dr. Norwood's team had its hand in all things involving captioning," Bill explains. "When closed captioning gained popularity in the 1980s the government separated it from CFD but it remained in the same general area of the U.S. Department of Education," which has funded DCMP and its predecessor organizations.

DESCRIPTION: HOW IT WORKS

"Audio Description (AD) provides a verbal version of the visual image. It's a narration of all the visual elements – action, costumes, settings, images – of theater, television/film, museum exhibitions, and other events."

From Audio Description Associates, <http://www.audiodescribe.com/about/whatisad.php>

Description, which was not conceived until the 1960s, was the brainchild of a blind U.S. Department of Education administrator named Chet Avery. Advocating the same strategy that enabled the deaf community to gain funding for CFD, Avery, says Bill, urged the blind and visually impaired community to apply for federal funding to describe educational media. It was not until the 1970s, however, that the concept of described theater performances that would benefit blind or visually impaired individuals gained a foothold. By the 1990s description finally entered the realm of movies, television and educational media.

According to DCMP IT head Jason Stark, the linchpin of the description process is the secondary audio programming (SAP) button with which most TVs are equipped. The SAP button is similar in principle to a closed caption decoder. The presence of the SAP button allows content producers to broadcast the original non-described audio to viewers desiring that audio content. Those who have description capability are able to select the secondary audio programming channel, which employs the same format used when broadcasting Spanish language content.

As for DCMP, Jason continues, “we distribute open captioned materials that do not require a closed caption decoder or chip. We also distribute openly described material, which does not require a classroom teacher to activate SAP on a remote control device that might or might not come to her from the school’s media center along with the TV on a cart. Teachers can choose content with description without having to deal with an AWOL remote control because the described audio is included with the main audio.”

CAPTIONING AND DESCRIPTION REACH SCHOOLS

Under pressure from educators, the Captioned Film Act of 1958 was quickly amended to include educational materials. Depositories of captioned movies and educational films were established throughout the U.S., including one for educational materials at every residential school for the deaf. According to Bill Stark, “that initiative represented the first step in the nationwide distribution of captioned entertainment and educational materials.”

Adds Bill: “Watching captioned movies became a major once-a-week social event for deaf communities across the country. At the same time, deaf adults were able to borrow these captioned movies and view them at social clubs and deaf fraternal organizations, for example. Deaf individual adults could also borrow the movies but needed a 16mm projector to watch them.”

Bill continues: “This system worked well as long as

the residential system of deaf education remained unchanged. It did change, however, and deaf students, as well as students with other disabilities, began a mass migration to non-residential public schools.”

As the migration proceeded, depositories at residential schools were assigned the task of mailing captioned educational media to public schools. This continued into the 1990s as the video revolution impacted the entire society with a flurry of new viewing formats which depositories adopted.

The accelerating video and technology revolution in the 1990s spawned an uptick in description development and distribution for education media that was spearheaded by Boston PBS station WGBH. DCMP did not become a major description distributor until two years ago when it added “description” to its name. However, Bill notes, “Even with DCMP on the description distribution scene, less than 5% of educational media contains description. The volume of captioned materials is far greater, in part because captioning had a three-decade head start on description. About 75% of educational media today does not have captions, but 25% does have them.”



MOST MEDIA IN THE DCMP COLLECTION MAY ONLY BE USED BY REGISTERED MEMBERS. BUT ANYONE MAY WATCH A STREAMED VERSION OF SOME PRODUCTIONS SUCH AS DCMP’S “EQUAL ACCESS IN THE CLASSROOM”

CAPTIONING AND DESCRIPTION AS UNIVERSAL DESIGN

In less than a generation the educational landscape for deaf students has changed utterly. Their migra-

tion to public schools is nearly complete. Ninety five percent of deaf students are involved in inclusionary public school programs.

One of the results of this transformation by migration, according to Dianne, is the growing movement to regard captioning and description as a form of universal design that is beneficial to all students, not just those who are deaf or blind or those with other disabilities. For example, an entire generation of visual learners can benefit from captioning.

Declares Dianne: “As an educator and as a visual learner, I know that if I possessed vision and hearing capabilities and was learning new content and listening to the audio on an educational media device and was also able to see the words, it would help me learn. The more senses that are tapped in the process of education the more retention there is. If you hear it as you see it you have a better opportunity to retain the information.”

As far as description is concerned, she adds, “it helps all students focus on what they are actually seeing as content.”

“I grew up on radio,” Bill remarks. “The first described movie I ever saw was *Pretty Woman*. I recognized immediately how much more I was getting out of the movie. It reminded me of radio; Julia Roberts walked onto the veranda, for example, and you heard a description of what she was wearing. This is wonderful for the blind viewer, but it is a technique from the peak era of radio. As a couch potato I had been thinking that I had been fully experiencing the movie whereas with the description I really was experiencing the movie.”

Adds Dianne: “When we first watched movies with description my thought was that today’s students, with all the visual aids that are available to them – for whom radio is a free music dispenser – are starting to lose their ability to employ description in their creative writing. If I were teaching any hearing students composition and creative writing I would want to show them materials with audio description to help them learn how to use descrip-

tion in their writing. This would compensate for the absence of the radio experience that helped develop imagination and creative expressive skills in earlier generations.”

A NEED FOR EVIDENCE-BASED RESEARCH?

In addition to assembling anecdotal evidence, the Starks are aggressive advocates for formal research on captioning and description.

“We have a national campaign underway entitled Read Captions Across America <http://www.dcmp.org/caai/nadh154.pdf> affiliated with the NEA and its Read Across America campaign,” Bill explains. “This has been a successful effort for us. We have talked about a similar campaign to tout the benefits of description to everyone. We’ve begun to formulate evidence that we can use. However, we need research in all areas of captioning and description. The government has not been able to fund sufficient study of both topics to develop a strong enough body of proof and evidence. Instead we have gathered together experienced teachers, consumers, and family members to provide anecdotal evidence. We have relied on these individuals to help us develop the beginnings of our guidelines for producing educational descriptions.”

“We continue to advocate for support from the federal government, private foundations and others for research in these areas,” Bill notes. “Short of that we rely on the input and feedback from consumers and professionals. We get unsolicited testimonials like the one we received recently from a woman who thanked us by letter ‘for making it possible for me to communicate with my 30-year-old sister for the first time as I learned sign language through your captioned media.’ Teachers have also written to us, saying, ‘I could never have taught this unit without captioning.’ We wish we had more research based evidence in order to advocate more effectively with funding sources, but we will make the best use of the evidence we have.”

THE IMPORTANCE OF LANGUAGE CONTACT

In areas like reading and language development, says Bill, “we know that one of the essentials is

language contact. The more contact readers have with the language the better they are able to develop reading skills. Research exists to prove that assertion. For a long time families of deaf children have been encouraged, in the kitchen, for example, to point to the refrigerator and say the word. Children with speech and lip reading ability may be able to pronounce 'refrigerator.' A label with that word printed on it can be placed two feet off the floor on the refrigerator, a child's reading height. A child can look at the label and point to the printed word."



THREE CHILDREN IN A KANSAS FAMILY WATCH DCMP'S STREAMED MEDIA WHILE LOUNGING ON THEIR LIVING ROOM SOFA. ONE IS PROFOUNDLY DEAF, ONE HAS A MODERATELY SEVERE LOSS, AND ONE IS HEARING. THEIR MOTHER, MICHELLE RICH, TESTIFIES THAT CAPTIONING IS NOT ONLY ESSENTIAL FOR HER CHILDREN WITH A HEARING LOSS, BUT THAT IT ALSO HAS CONTRIBUTED MIGHTILY TO THE LANGUAGE DEVELOPMENT OF HER HEARING CHILD

He continues, "Sesame Street is captioned and when Big Bird says 'ball' he has a ball in his hand. If the word 'ball' is printed underneath, that fits into the language contact context. There is ample evidence that all children can benefit by having a printed word presented to them along with the spoken word or the visual representation of an object."

"Dianne, Jason and I become a little frustrated when we have to articulate that concept to individuals outside the field or to funding agencies. To me there is a huge 'duh' factor. We believe we have a sufficient body of evidence to prove that captioning and description are vital to kids who are sensory deprived. Importantly, however, we also believe

strongly that captioning and description benefit other children who are not sensory deprived. Teachers tell us this in unsolicited feedback."

For example, he continues, "in our newsletter we featured an article by Michelle Rich <http://www.dcmp.org/outreach/newsletter/december2007.html> who writes that because of her two deaf children she has surrounded her family with captions, an approach that has greatly benefited her hearing child. Michelle's hearing child is at a very high level of early language development. Although Michelle can't prove the effectiveness captions with her hearing child she is convinced that their impact has been vital."

Adds Dianne, "Sesame Street was developed the way it was to help young children gain exposure to the written word and captioning adds more of those same benefits. Occasionally Congress will summon network representatives to testify about their educational programming and we urge those representatives to remember to extol the educational role of captioning and description in all their programming. Still, it's a tough sell to the networks, as they don't seem to understand the true value to all people of the accessibility features in their own programming."

NO CAPTIONING MANDATE FOR SCHOOLS

"Captioning is done on broadcast TV largely because federal law mandates it," Bill insists. "If there was no legislation mandating captioning, it might be no better off than description on TV, for which there is no federal mandate. So we will keep on pushing."

"It's the same with the schools, which, with the exception of a couple of states, are not mandated to purchase captioned educational materials," notes Dianne. "However, the states are mandated to accommodate children's learning needs, and that cannot be done for deaf children without captioning."

Dianne says she recently had two phone calls from parents who told her that their children's schools lacked captioned versions of media. The schools'

solution: Hand the video to the parents and encourage them to transcribe the video at home that night so that their children could read the transcription the following day in class. "I am all too aware that schools everywhere are hurting for money, but I have a strategy that might work for the schools: Tell the video producers that they will not purchase educational media unless it's captioned and described."

Bill cites the late Judy Brown, an Oregon grandmother, as one of a growing number of grandparents nationwide raising grandchildren. Ms. Brown's granddaughter is deaf. Ms. Brown was also advised by her daughter's school to transcribe videos for her daughter's classroom use. As her granddaughter progressed from elementary through middle school and then high school Ms. Brown campaigned for captioning at each level "because no information about her granddaughter's need for AT, including captioning and a sign language interpreter, followed her from school to school. The upshot is that Judy was responsible for successfully lobbying the Oregon legislature on behalf of a resolution that all schools in that state would consider the purchase of captioned media when buying educational media. The resolution was not as strong as Judy wished, but it was a significant step in the right direction," Bill remarks.

REDUCED ACCESSIBILITY: THE IRONY OF THE INFORMATION AGE

According to Bill Stark, an irony of the technology revolution is that accessibility, especially regarding captioning and description, is actually being reduced. "This reduction is not by design," Bill explains, "but it is very difficult to keep pace with the amazing and continuous proliferation of technology."

He cites the example of a member of the DCMP IT staff "who was recently watching an episode of the old television show I Love Lucy on his cell phone "but there were no captions." As far as accessibility is concerned, he emphasizes, "we need to keep up with the evolution of technology. On the Internet

more and more sound is being introduced and very little is captioned and less is described."

He hopes that organizations like the newly formed Coalition of Organizations for Assistive Technology (COAT) <http://www.coataccess.org/node/51>, a consortium of AT organizations lobbying for captioning in existing and emerging communications technology, will help close the gap between technology and accessibility, a tall order as the digital age takes shape.

BUYER BEWARE

According to Jason Stark, "The traditional analogue captioning is changing as digital TV emerges. Unfortunately consumers are back where they were years ago. They are purchasing high definition televisions from retailers. Once home they are using the HDMI interface to connect their cable box to their new television, but HDMI does not support the analogue closed captioning."

In South Carolina where DCMP is based, "we had some issues with our local cable provider about getting description. Programs were supposed to be provided with description but it was very frustrating trying to determine if the networks were really broadcasting description and to turn it on. This new technology is wonderful but it creates new hurdles as far as captioning and description are concerned."

Says Bill Stark: "Dianne and I just purchased a large HDTV. We saw a caption demonstration in the store. Later we found out that the dealer's captioned programming running on the TV in the store is taped and is not an actual broadcast. When we got the TV home and connected it there were no captions."

"We learned that while digital captioning is an option on the television's menu it does not work because most of the programming is being broadcast with analogue closed captioning. Dianne and I watch a lot of captioned TV at home, in part because of how we earn our living but mainly because we

enjoy the captions and think that they contribute to our overall appreciation and enjoyment of programming. Like our deaf friends we cannot watch the high definition signal using the best connection because it is impossible to get any captions on it. Instead we settle for a diminished visual on a 50-inch television in order to get any captions at all.”

Is there a solution that will favor individuals with disabilities, especially those who are deaf or blind?

Jason sees hope. “We are currently in an awkward phase in which so much of the programming remains with analogue closed captions. In February 2009 broadcast will go digital, and I think that once broadcasters start broadcasting digital captions some of these problems will be alleviated. As of now, however, deaf consumers are buying products at local retailers where sales people are not familiar with these issues.”

Bill and Dianne Stark are also optimistic that in the long run digital captioning and even description will be made available to all who want or need it, especially to children via education media as well as commercial television. “It won’t happen tomorrow,” Bill predicts, “because the history of captioning and description demonstrates that the race to accessibility will continue to be a marathon – but it’s a race worth running to ultimate victory.”

In the meantime he is heartened by Google’s recent decision to feature captioning on its Video Help Center <http://video.google.com/support/bin/answer.py?hl=en&answer=27738> using DCMP’s self-help captioning guidelines. Says Bill: “This is very significant for Google to do this. Hopefully, it will mean a lot to deaf persons while boosting captioning awareness and advocacy in the near term.”

For more information about description and captioning, visit the Described and Captioned Media Program at www.dcmp.org, or make a toll-free call to 1-800-237-6213.

Join FCTD for our
November Online Discussion

Parent Advocacy and Family-School Partnership

November 1 - 30, 2008

Joining us as moderators,
we are pleased to welcome

Lon Thornburg,
Veteran Teacher and
Assistive Technology Specialist

and

Charles DiPietro,
Parent Advocate

Effective parent advocacy takes time and effort, but has proven to result in superior educational outcomes for children with disabilities.

Join our experts and colleagues throughout the country in sharing strategies for productive parent advocacy and family-school partnerships.

<http://www.fctd.info/webboard/index.php>



AN EARLY ADOPTER AND INNOVATOR MAINTAINS HIS VISION

Before there was the dot.com generation, there were baby boomers creating the hardware and software platforms on which the technology revolution was launched. Before them were Depression era babies who, between World War II and Vietnam, pushed the edges of, and ultimately transformed, available technology to serve children and adults with disabilities in previously unthought-of ways. Frank Withrow is one of those individuals. As Bill Stark mentions in his interview, Frank was crucial in the promotion and funding of captioning at the Federal level, and inspired many others along the way. He was an early adopter of computer-enhanced learning and has created his own interactive literacy programs.

Today, an octogenarian who writes a near-daily blog, Frank continues to look forward, pressing colleagues to embrace evolving technologies in ways that can enhance learning by all students. The following is adapted from one of his recent essays.

With Sesame Street and The Electric Company we experimented with captions, where they took on the meaning of the word; that is, the word “fat” became FAT and the word “thin” became thin.

The late Dr. Margaret S. Withrow, PhD. and Charles Csuri created a series of programs to teach deaf children language. For example, if there was a sentence “The butterfly flew around the flower,” when the student read it aloud or when they clicked on the words, the text morphed into a butterfly flying around the flower. When the action stopped the sentence then reappeared as “The butterfly flew around the flower.”

Another idea in the dawn of captioning was to use different colored text; that is, a differ-

ent color for each speaker in a movie or a different text font for each character. Today’s digital world gives us much more freedom in creating exciting and dynamic text that can reinforce language learning. The digital page gives us a new palate of creativity for more meaningful uses of dynamic text.

The **big** red ball rolled down the s
t
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DIGITAL TELEVISION TRANSITION: WHAT IS IT AND WHY YOU SHOULD CARE

*By Jenifer Simpson,
Senior Director, Telecommunications Policy,
American Association of People with Disabilities*

You may have heard or know something about the digital television transition or “DTV transition.” In case you need a recap, here it is, in brief:

By federal law most TV stations will switch from analog to digital broadcasting on Tuesday February 17, 2009.

If you don’t learn about this digital TV transition and some of the choices you have, you, or family members, including millions of people with disabilities, might end up looking at a blank TV screen on February 17, 2009.

That is — unless you buy a new digital TV or pay for TV (cable, satellite or phone company) OR get a converter box — your TV will be dead. Maybe some static and snow! No news. No sports. No favorite TV shows. Nothing about school closings or emergency situations.

We know there are millions of people with disabilities — or their families — who can’t afford to buy new digital TVs or don’t want to choose to buy one.

And, there are millions who can't afford cable or satellite TV service.

Over one third of TV households who use "rabbit ear" antennas with an analog TV set include a person with a disability! This includes people with disabilities who rely on captioning and video description of TV shows. Viewers watching and hearing TV using "rabbit ears" or another antenna will see nothing but static and snow on February 17, 2009 if they do nothing.

To keep using that analog TV set, viewers MUST get a digital-to-analog signal converter box (or purchase pay TV service.)

Converter boxes cost about \$40-\$60, a one time purchase. It's a device about the size of a paperback book. You can get two coupons worth \$40 each per household to help pay for the converter box. Most converter boxes will convey captioning but check that it works first! Some may even convey video description used by blind persons.

Even if you have cable or satellite, but also use an old TV in the basement, you are still eligible for a coupon. And there are no income limits to eligibility for these coupons.

To get the coupon, go to the government website at <https://www.dtv2009.gov/> and apply today as supplies are limited.

Or call the government's toll free number, 1-888-DTV-2009 (1-888-388-2009) or 1-877-530-2634 (TTY). Coupons are good for only 90 days! So sign up, apply, and buy! Share this information with a friend whom you know watches analog TV.

More information about the DTV transition is available at the following websites:

1. Federal Communications Commission (FCC) one pager of basic information on the DTV Transition at <http://www.fcc.gov/cgb/consumerfacts/digitaltv.html>
2. Buying the Right (Digital) TV at <http://www.fcc.gov/cgb/consumerfacts/dtvlabels.html>
3. Federal Government website dedicated to the

transition at <https://www.dtv2009.gov>

4. FCC Fact sheet on digital TV at http://www.fcc.gov/cgb/consumerfacts/CC_converters.html
5. Low Power television (LPTV) and DTV transition facts at <http://www.fcc.gov/cgb/consumerfacts/DTVandLPTV.html>
6. How to find the right antenna to receive your local television broadcast channels at <http://www.antennaweb.org/aw/welcome.aspx> (has map function so you can angle your roof antenna properly).

Quiz yourself to see what you know about the digital TV transition and receive a certificate, at <http://www.dtv.gov/dtvquiz1.html>.

Resources compiled by the Telecommunications and Technology Policy Initiative, American Association of People with Disabilities (AAPD), 1629 K Street NW, Washington, DC 20006. For further information, please email Jenifer Simpson at aapdjenifer@aol.com.

The Academy for Educational Development (AED)
is pleased to announce
that the U.S. Department of Education
has awarded a 5-year cooperative agreement
to operate the
Family Center on Technology and Disability (FCTD)
to the team of
AED – Alliance for Technology Access – PACER Center.

We look forward to continuing to provide
current, high quality information on assistive
and instructional technologies and
to increased collaboration with
national, state and local organizations.

Please feel free to contact FCTD director,
Jackie Hess at (202) 884-8217; jhess@aed.org
or technical officer, Ana Maria Gutierrez at
(202) 884-8068; agutierr@aed.org

We heartily thank those of you who
contributed letters of support!

RESOURCES

ARTICLES

ACCESSIBILITY, TRANSCRIPTIONS AND ACCESS EVERYWHERE

By K. Bain, S. Basson, A. Faisman and D. Kavevsky

IBM Systems Journal (2005)

This article, from IBM Systems Journal, details a number of key advances in audio access that occurred between 2000 and 2005. It describes the Liberated Learning Project, a consortium of universities worldwide, which is “piloting technologies to create real-time access for students who are deaf and hard of hearing, without intermediary assistance.” The article also describes IBM’s ViaScribe™ tool that converts speech recognition output to a viable captioning interface.

<http://www.research.ibm.com/journal/sj/443/bain.html>

CAPTIONS FOR DEAF AND HARD OF HEARING VIEWERS

National Institute on DeafNess and Other Communications Disorders (NIDCD) (2000)

Although this article is eight years old, it provides the reader with a historical perspective on the origination and use of captioning and offers sound basic definitions of key concepts in captioning.

<http://www.nidcd.nih.gov/health/hearing/caption.asp>

HOW DO CAPTIONING AND TRANSCRIPTS WORK?

Axisitive 2.0 Beta (2008)

This articles defines captioning and transcription and explains their benefits and how they can best be accessed via Windows Media. The author defines captioning as follows: “Captioning is a method that ensures that users who are hearing-impaired get similar experiences of video and audio. Usually appearing below the video clip, [captions] appear similar to subtitles

on foreign language films. Captioning for video is the description of everything that occurs during the footage, including the description of action, usually shown in square brackets: such as ‘dog barks under the tree.’” It goes on to describe transcripts as “targeted at users who are visually impaired [and are] full-length accounts of what was spoken or of what has occurred. Usually, they are read to the user through screen-reading software and can take the form of a Web page, an MS Word document, PDF file or a plain rich text file. The transcript contains a brief outline of the subject matter of the video/audio material. It also displays the members participating and indicates the duration of the material.”

<http://www.axisitive.com/how-do-captioning-and-transcripts-work.html>

A HIGH TECH DAY IN THE LIFE OF A DEAF STUDENT

By Abigail Leichman - Help Kids Hear.org (2005)

Ms. Leichman writes, “From the moment her alarm shakes her from slumber every school day, Michelle Gerson is wired. Or, more accurately, wireless. Gerson, a second-year professional and technical communications major at Rochester Institute of Technology, has been deaf since she was 3½. She is awakened in the morning with a Sonic Boom Alarm Clock with Bed Shaker, which rouses her for a 10 AM effective speaking class. If Gerson has a question, she types it into her laptop and a captioner voices it for her, and then types the answer. After class, a transcript is available on the university’s website for review purposes. This is called C-Print and enables her to interact ‘real time’ with her professors and classmates. To maintain communication with family and friends, she uses a pager. The pager vibrates, indicating an incoming message. While most of the 1,100 hard-of-hearing students on the RIT campus use e-mail and instant messaging to communicate with friends and family, they too have vibrating two-way pagers designed for people with hearing loss. These devices include a phone and have the capability to text hearing friends who have cell

phones.”
<http://www.helpkidshear.org/news/media/2005/04-02-2005-jersey.htm>

PLEASE DESCRIBE WHAT JUST HAPPENED

By Janet Igber

AFB Access World (March 2006)

This article provides an excellent overview of the emerging description field and the issues associated with it. Ms. Igber describes key FCC, legislative and statutory actions and offers the observations of disability association representatives.

With input from Ira Miller of WGBH's Media Access Group and Rick Boggs of WeSee TV, the author provides interesting information on how description is prepared for television, movies, and video. <http://www.afb.org/afbpres/pub.asp?DocID=aw070205>

CAPTIONING OF ONLINE VIDEOS COULD BE LAW

Accessible Technology Bulletin (July 2008)

Although primarily discussing the Americans with Disabilities Act and website accessibility, this article includes a short discussion of captioning and description. Of particular interest is its identification of recently introduced legislation that would “mandate captioning and descriptions of Internet video as well captioning on smaller devices such as MP3 players and cell phones.” It notes that the legislation “does not include homemade videos such as those posted on YouTube. Devices would have to provide video description services and read aloud emergency messages that scroll across the bottom of the screen. In addition rules would extend to Internet phone services, such as Skype that let a user exchange voice, text or video communications over the Internet.”

<http://www.adagreatlakes.org/Publications/ATBulletin/>

REAR WINDOW CAPTIONING SYSTEM

Wikipedia (2008)

According to this Wikipedia entry, the Rear Window Captioning System (RWC), developed

by Boston PBS station WGBH and Rufus Seder, is a method for presenting, through captions, a transcript of the audio portion of a film in theaters for deaf and hard-of-hearing individuals.

“On the way into the theatre, viewers pick up a reflective plastic panel mounted on a flexible stalk. The panel sits in a seat cupholder or on the floor adjacent to the seat. A large LED display is mounted on a rear wall that displays caption characters in mirror image. Viewers move the panels into position (usually below the movie screen) so they can read the reflected captions and watch the movie. It is sometimes necessary to sit in a certain area of the theater to obtain the best angle for reflecting the backward text emitted from the back of the theater on the panel while also being able to view the movie at the same time. Through this method, all screenings of a film can be accessible to caption viewers. Others seated alongside do not watch, or usually even see, the captions.”

http://en.wikipedia.org/wiki/Rear_Window_Captioning_System

HOW TO PROVIDE TEXT EQUIVALENTS FOR AUDIO

Skills for Success (2007)

This how-to primer explains ways to prepare, organize and test captions for video as well as described audio. It begins with a discussion of the importance of providing text captions and addresses the technical challenges faced by producers of video with audio content. It discusses “chunking” and “styling,” both important elements of effective captioning. <http://www.skillsforaccess.org.uk/howto.php?id=103>

GUIDES

CAPTIONING SERVICES: REAL TIME CAPTIONING

AT Network (2008)

This resource provides contact information for on-site and remote real time captioning services. <http://www.atnet.org/index.php?page=captioning-services>

DICTIONARIES

ACCESSIBILITY DICTIONARY

NetMechanic (2007)

This resource features accessibility terms, including those related to captioning and description.

<http://www.netmechanic.com/accessibility/glossary.shtml>

WEBSITES

DEAFPLANET

By Mark J.W. Bishop Marble Media (2007)

This resource features accessibility terms, including those related to captioning and description., the audio and captioned language parts are also available in French.

<http://www.deafplanet.com>

CAPTION MAX

CaptionMax works to make all media accessible to all people - by providing top-notch captioning, subtitling, audio description, and technical services. They are one of just a few companies that provide audio/video description services for the blind. They also offer subtitling services for DVD or the web, CaptionMax created the Universal Access to Media (UAM) program to make possible a richer learning experience for K-12 students regardless of ability.

<http://www.captionmax.com/>

CLOSED CAPTION LATINA

Closed Caption Latina is a company that has specialized in the design and implementation of technological solutions for closed captioning, Computer Aided Realtime Translation (CART), video description, subtitling and dubbing for more than 15 years. Their work is centered around the development of Spanish language closed captioning and video description. Staff are specialized in stenography and voice recognition and are able to work in several languages, and on audiovisual productions. Their website is offered in both English and Spanish.

http://www.closedcaptionlatina.com/index_en.php

DEAF READ

Taylor Infomedia (2008)

This website features video and written blogs dealing with a range of issues associated with deafness. Some videos include captioning and sign language. There are links to discussions about cochlear implants. Captioned movie information is also available. <http://www.deafread.com>

VIDEOS

COMPUTER ACCESS: IN OUR OWN WORDS

Do-IT - University of Washington (2004)

This 10-minute streaming video shows AT solutions available for use by students with disabilities. The video is captioned and audio described. AT solutions are presented for the following disabilities: hearing impairments, via captioning the Internet and blinking the computer screen; speech impairments, using the Web and a voice output device; learning disabilities, using a word processor with spell check, dictionaries and text-to-speech software with scanned books and speech-to-text programs; and mobility impairments via alternative keyboard and mouse input devices and word prediction.

http://www.washington.edu/doiit/Video/comp_acc.html

BLUE ROSE VIDEOS WITH A VOICE

This website, founded by Shoshana Brand, a vision-impaired film buff, is home to a described video rental service featuring over 200 commercial video titles, complete with narratives describing costumes, facial expressions and actions visible to sighted viewers.

Blue Rose's selection of titles includes dramas, comedies, musicals, adventures, science fiction, mysteries, and family and children's films. Stock is frequently updated and delivery is provided. Membership is required. Per-film rental fee: \$3.00, plus 22 cents tax for California residents.

For further information, contact:

Blue Rose Videos

397 Holly Drive San Rafael, CA 94903

Email: info@blurosevideos.com

<http://blurosevideos.com/>

KNOWLEDGE NETWORK MEMBERS

DESCRIBED AND CAPTIONED MEDIA PROGRAM (DCMP)

Funded by the U.S. Department of Education and administered by the National Association of the Deaf, DCMP provides services to support and improve the academic performance of students with deafness, blindness, visual and/or hearing impairments, and deaf-blindness. The organization's services include:



- A library of free-loan described and captioned educational media
- A clearinghouse of information related to educational media access
- A gateway to accessibility-related Internet resources
- A center for training and evaluation of service providers seeking to be included in DCMP's approved lists of captioning and description service providers.

For further information on DCMP, contact:
Described and Captioned Media Program (DCMP)

1447 East Main Street
Spartanburg, SC 29307

Phone: (800) 237-6213

(Voice); (800) 237-6819; (864) 585-1778

(Voice); (864) 585-2617 (TTY)

Fax: (800) 538-5636; (864) 585-2611

Contact: Bill Stark, Project Director

<http://dcmp.org>

COALITION OF ORGANIZATIONS FOR ASSISTIVE TECHNOLOGY (COAT)

Coalition of Organizations for Accessible Technology

Founded in late 2007 by Communication Service for the Deaf (CSD), the National Asso-

ciation for the Deaf (NAD), the American Association of People with Disabilities (AAPD) and the American Federation of the Blind (AFB), the coalition aims to ensure that legislative and regulative safeguards exist to provide access to evolving high speed broadband, wireless and other web-based technologies. Nearly 200 national, state and local organizations are COAT members. Its two main areas of activity are video programming and communication access.

In video programming COAT seeks the following objectives:

- Extension of the Television Decoder Circuitry Act of 1990 to video devices of all sizes. Currently, this law requires televisions to have built-in decoder circuitry for closed captioning capacity, but only for those television screens that are at least 13 inches. Today screens much smaller than 13 inches can display captions. COAT is pushing to have the 13 inch minimum requirement eliminated, so televisions with screens of any size will be required to be capable of displaying captions. In addition, some playback and real-time recording devices, such as digital DVD players and Blu-Ray DVD players, may not be capable of decoding and displaying captions. COAT advocates expanding the scope of the Decoder Act to video programming devices of all sizes, including recording and playback devices that are designed to receive or display analog, digital, or Internet-based video programming.
- Extension of federal closed captioning obligations to certain Internet-based video programming. Closed captions are legally required for 100% of new, non-exempt, English television programs, some Spanish language programming and some older television programs. Currently, the majority of Internet television programs, movies, video clips and live video streaming lack captions due to the absence of a legal re-

quirement for Internet-based videos. COAT urges Congress to mandate closed captioning obligations for certain video programming broadcast on the Internet.

- Restoration of the FCC's video description rules. Video description allows video programming to be accessible to blind people. Video description describes on-screen visual elements during natural pauses in dialogue. The FCC had mandated some video description, but in 2002, a federal court ruled that the FCC did not have the authority to issue those rules. Restoration of the FCC's video description rules would ensure access by blind and visually impaired people to television programming, including on-screen emergency warnings and information.
- Accessible user interfaces and easy access to accessibility features on all video programming devices.

<http://www.coataccess.org/node/51>

NATIONAL CENTER FOR ACCESSIBLE MEDIA/INTERNET CAPTIONING FORUM (ICF)

Founded in October 2007, the ICF is a consortium of the leading providers of web-based video seeking to overcome technical and production barriers associated with transitioning captioning from broadcast venues to online. The consortium, which consists of AOL, Google, Microsoft and Yahoo! sought out Boston's WGBH and the station's National Center for Accessible Media (NCAM) to manage the ICF. The ICF goal is to provide access to captioning files from captioning agencies so that when programming is moved online from a broadcast environment the captioning capability is not lost. In its first year of operation the ICF has addressed technical challenges presented by



online video repurposed from broadcast or other previously captioned sources as well as video created expressly for the web. The collaboration is expected to yield a range of solutions and tools, including:

- A database for online media distributors, populated by major captioning providers, of previously captioned programs. This tool will facilitate the location and reuse of existing caption files.
- Technical and standards documents, case studies and best practices for accomplishing pervasive online video captioning.
- Demonstrations of innovative practices to preserve captions while editing and digitizing captioned videos.

In addition to individuals with deafness or hearing impairments, potential ICF beneficiaries include those who rely on translation engines to convert caption text into other languages, individuals using online video in noisy situations or at work and search engines that use caption text to search and retrieve online videos. For additional information on the ICF, contact:

Internet Captioning Forum (ICF)
National Center for Accessible Media
1 Guest Street
Boston, MA 02135
Phone: (617) 300.3400 (TTY); (617) 300-2489
Fax: 617.300.1035
Email: ncam@wgbh.org
<http://ncam.wgbh.org/icf/about.php>

NATIONAL CAPTIONING INSTITUTE (NCI)



Established as a non-profit corporation in 1979, NCI provides domestic and international captioning, subtitling and described video for broadcast and cablecast television programs,

home video programs, TV commercials, corporations and government agencies. NCI closed captioning services for prerecorded national TV programs were launched in 1980 in conjunction with ABC, NBC, PBS and the federal government. Real-time captioning of live programming was introduced two years later. In 1980, NCI partnered with ITT Corporation to develop the first caption-decoding microchip that could be built directly into new television sets. NCI also provides subtitling and language translation services in more than 40 languages and dialects. The Institute offers described video service to individuals who are blind or have low vision. The NCI Foundation oversees the operations of NCI and its subsidiary, the UK-based European Captioning Institute as well as ULTECH LLC, a Middlebury, CT company that develops and manufactures broadcast and post-production equipment for closed-captioning, subtitling and data encoding. For more information on NCI, contact:

National Captioning Institute
 1900 Gallows Road, Suite 3000
 Vienna, VA 22182
 Phone: (703) 917-7600 (Voice/TTY)
 Fax: (703) 917-9853
<http://www.ncicap.org/>

COMMUNICATION SERVICE FOR THE DEAF AND HARD OF HEARING (CSDHH)

CSDHH provides services to the deaf and hard of hearing community of Guilford County, NC. Services include captioning, sign language classes, sign language interpretation, advocacy and information and referral. Fee-based captioning services are provided on-site or remotely via the Internet and include Communication Access Realtime Translation (CART) and Computer Assisted



Notetaking (CAN). For additional information on CSDHH, contact:
 122 North Elm Street, Suite M-2
 Greensboro, NC 27401
 Phone: (336) 275-8878 (Voice); (336) 274-1461 (TTY/Video Phone)
 Fax: (336) 273-0015
<http://www.csdhh.org/index.htm>

FLORIDA SCHOOL FOR THE DEAF AND BLIND (FDLRS): RESOURCE MATERIALS AND TECHNOLOGY CENTER (RMTC-D/HH)

The Center is a specialized FDLRS facility serving teachers of the deaf and hard of hearing throughout Florida. The RMTC-D/HH supplies teachers of deaf and hard of hearing students the technology assistance, training and consultation needed to integrate technology into their classroom routines. In addition, the Center offers teachers and interpreters access to a lending library of more than 1,300 captioned or signed videotapes. For further information on the Center, contact:
 Resource Materials and Technology Center
 Florida School for the Deaf and Blind
 207 North San Marco Avenue
 St. Augustine, FL32084
 Phone: (800) 356-6731
<http://www.fsdh.k12.fl.us/rmc/>



INSTITUTE FOR DISABILITIES RESEARCH AND TRAINING (IDRT)

IDRT specializes in research and development efforts on behalf of children and adults who are deaf and hard of hearing. The organization possesses particular expertise in the development of computer software and other products in American Sign Language (ASL),



in research on speech recognition and closed captioned television and in training related to emergency response for people with hearing losses. For more information on IDRT, contact:

Institute for Disabilities Research and Training
11323 Amherst Avenue
Wheaton, MD 20902
Phone: (301) 942-4326 (Voice/TTY)
Fax: (301) 942-4439
<http://www.idrt.com>

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