

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

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In the Matter of )

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Implementation of Section 716 and 717 of ) CG Docket No. 10-213  
the Communications Act of 1934, as Enacted )  
by the Twenty-First Century )  
Communications and Video Accessibility )  
Act of 2010 )

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**ASSOCIATION OF LATE-DEAFENED ADULTS, INC.;**  
**DEAF AND HARD OF HEARING CONSUMER ADVOCACY NETWORK;**  
**CEREBRAL PALSY AND DEAF ORGANIZATION;**  
**TECHNOLOGY ACCESS PROGRAM AT GALLAUDET UNIVERSITY**

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**ACCESSIBILITY OF COMMUNICATIONS TECHNOLOGIES**

This document is to offer the perspective of consumer groups from the deaf and hard of hearing population in America on the extent of recent accessibility gains as well as what accessibility barriers still exist with respect to new communications technologies.

- An assessment of the level of compliance with Sections 255 and 716 of the Communications Act (Act).

- An assessment of the extent to which any accessibility barriers still exist with respect to new communications technologies; and
- An assessment of the effect of the requirements of Section 717 of the Act on the development and deployment of new communications technologies.

In the past several years, we have seen enormous strides in accessibility with consumer products. All these enhancements are the result of unprecedented innovation and consensus-driven policy. Inclusive innovation by industry has led to many critical advances to technologies, including email, mobile telecommunications, captioning, text messaging, video relay, and captioned telephone, that allow people with disabilities to enjoy telecommunications on a level playing field along with their family, friends in the business world, and others throughout their communities. We have been encouraged that the telecommunications industry has been working with academic researchers to break through the status quo, and push the envelope of accessibility.

Groundbreaking legislation such as the Twenty-First Century Communications and Video Accessibility Act (“CVAA”), the Telecommunications Act of 1996, the Americans with Disabilities Act, and other legislation have given us hope that functional equivalence is possible, as well as recourse to seek equal access. The FCC plays a critical role, balancing the needs of industry and consumers through committee meetings, rulemakings, and other proceedings that aim for consensus.

One underlying cause of many barriers in telephone and advanced communication products and services is the ongoing resistance by some members of the industry to incorporate and implement accessibility features. Another barrier is that providers of accessibility services that are dependent on government subsidies cannot establish long-

term plans because political policies can change from one year to the next.

Proposed accessibility enhancements often reflect a good-faith consensus during committee meetings at the FCC prior to publication of upcoming rules. Here, we applaud the FCC for creating incentives such as the annual Chairman's Accessibility Awards. But despite these well intentioned incentives, some stakeholders from industry continue to file numerous requests for exemptions that can lead consumer groups to question the sincerity of industry stakeholders participating in committee meetings.

For example, the Consumer Electronics Association and the National Cable & Telecommunications Association recently submitted petitions for waivers from the ACS rules for video games, IPTV/DVP, and cable boxes. Those petitions illustrate how some sectors of industry remain reluctant to consider universal design principles at the inception of product design. Instead, some industry representatives would prefer to retrofit accessibility features years later at higher expense, wasting money and undermining the civil rights of consumers in the meantime, perpetuating another "digital divide."

In another example, the EAAC recommendations strove hard to achieve consensus, to fulfill the requirements of the CVAA, a bipartisan achievement, only to have key industry members disavow several important recommendations at the 11th hour. The consumer group's response expressing their displeasure is here:<sup>1</sup>

As Representative Ed Markey noted in introducing the original version of the CVAA:

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<sup>1</sup> <http://apps.fcc.gov/ecfs/comment/view?id=6016878849>

*[V]arious industries have lamented over recent years that Congress and the Federal Communications Commission simply cannot keep pace. They repeatedly assert that our Nation's laws and regulations are antiquated. They have successfully pressed for changes and continue to push for additional new ones. And various laws and regulations reflect new technologies and new competition. 'Hurry up,' they say. 'Get on with changing all these old regulations. Quickly update our communications laws.'*

*However, when it comes to updating our laws and ensuring access for individuals with disabilities, we seem to be hearing a different story from the industry. 'Slow down,' they say. 'Not so fast. Shouldn't we wait and see where technology is going first before we start updating regulations?'*<sup>2</sup>

In explaining the need for the CVAA, Congress noted that the communications marketplace had undergone a “fundamental transformation” with the accessibility requirements of the Telecommunications Act of 1996.<sup>3</sup> Specifically, Congress stated that since it added Section 255 to the Communications Act of 1934, as amended (“the Communications Act”), “Internet-based and digital technologies . . . driven by growth in broadband . . . are now pervasive, offering innovative and exciting ways to communicate and share information.”<sup>4</sup> Congress found, however, that people with disabilities often

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<sup>2</sup> Draft Legislation Enhancing Access to Broadband Technology and Services for Persons with Disabilities, Hearing Before the Subcommittee on Telecommunications and the Internet of the Committee on Energy and Commerce House of Representatives One Hundred Tenth Congress Second Session, May 1, 2008 Serial No. 110–110 [www.gpo.gov/fdsys/pkg/CHRG-110hrg53211/pdf/CHRG-110hrg53211.pdf](http://www.gpo.gov/fdsys/pkg/CHRG-110hrg53211/pdf/CHRG-110hrg53211.pdf)

<sup>3</sup>See 47 U.S.C. § 255; S. Rep. No. 111–386, at 1 (2010) (“Senate Report”); H.R. Rep. No. 111-563, at 19 (2010) (“House Report”).

<sup>4</sup> See Senate Report at 1; House Report at 19.

have not shared in the benefits of this rapid technological advancement and that they face disproportionately higher rates of unemployment and poverty than those without disabilities.<sup>5</sup> Recent surveys confirmed this finding, showing a gap of 38 percentage points in the rates of employment of working-age people with disabilities and those without disabilities (21% v. 59%)<sup>6</sup> and a gap of 27 percentage points in the rates of Internet access (54% v. 81%).<sup>7</sup> At the present time, only 48% of people who are deaf and hard of hearing and aged between 18 and 64 years have jobs.<sup>8</sup>

In that same report, Edward Markey added:

*It seems that the question in this area is not whether Congress will keep up with the changes in technology, but rather, will the industries keep up with the changes that are already happening in millions of homes all across our country already? The challenge for the industries is whether they will keep pace in ensuring that these empowering technologies enhance the lives of all consumers.*<sup>9</sup>

We urge the Commission to send the message to Congress that some in the industry are refusing to embrace accessibility as a priority and to adopt universal design principles, despite the clear mandates from Congress in the CVAA. Contrary to the

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<sup>5</sup> See Senate Report at 1-2; House Report at 19.

<sup>6</sup> See National Organization on Disability and the Kessler Foundation, 2010 Gap Survey of Americans with Disabilities (July 26, 2010), at [www.2010disabilitysurveys.org/indexold.html](http://www.2010disabilitysurveys.org/indexold.html).

<sup>7</sup> See Susannah Fox, Pew Internet, Americans living with disability and their technology profile, (Jan. 21, 2011), [www.pewinternet.org/Reports/2011/Disability.aspx](http://www.pewinternet.org/Reports/2011/Disability.aspx). Additionally, this article shows that “43% of Americans say that people who do not have broadband at home are at a major disadvantage when it comes to finding out about job opportunities or learning career skills.” Id.

<sup>8</sup> Census Bureau’s 2010 American Community Survey

<sup>9</sup> <http://www.gpo.gov/fdsys/pkg/CHRG-110hhr53211/pdf/CHRG-110hhr53211.pdf>

arguments that industry members often make, however, accessibility and innovation are not at odds; they go hand in hand. Accessibility regulations should provide a floor to ensure that Americans with disabilities have equal access to telecommunications services — not a ceiling for what forward-thinking innovators should strive for in creating new accessible products.

We can point to several initiatives by large corporations as a model for others to emulate. Such initiatives include the major wireless providers incorporating features in their wireless service plans such as text/data only plans, web portals linked to services geared to people with disabilities, a wide assortment of hearing aid compatible phones, captioned telephone services, and video conferencing programs

Apple, Inc. is an example of a leading manufacturer that embraces accessibility throughout many of its products by featuring universal design principles. In a move that clearly demonstrates the value of having employees with disabilities in crucial positions, Apple has offered several new accessible features, such as FaceTime and hearing aid compatibility on some of its iPhone 4 products.<sup>10</sup> But unfortunately, to the dismay of deaf and hard of hearing consumers everywhere, many movies on iTunes are not captioned, and the latest iPhone 4S with Siri is not compatible with hearing aids.

Another example of great innovation, but one whose future depends on the whims of politics, is captioned radio. This collaborative effort between NPR Labs and Towson University promised to bring a new type of access to a medium that had never been open to people with hearing disabilities since its invention. After several years of successful development and a demonstration in four cities on Election Day in 2008<sup>11</sup>, the captioned

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<sup>10</sup> <http://support.apple.com/kb/HT4526>

<sup>11</sup> [www.npr.org/audiohelp/closed\\_caption.html](http://www.npr.org/audiohelp/closed_caption.html)

radio project was poised to go into mass production -- but funding was halted. However, thanks to new funding, captioned radio will soon become a reality.<sup>12</sup> Another area where captioned radio holds great promise for accessibility is with over the air broadcast of emergency alerts, which currently under EAS-SAME is nearly totally inaccessible. And we would also want to highlight CMAS as another example of the industry doing the right thing.

The following paragraphs outline the accomplishments and concerns noted by consumer groups grouped by major components of the Telecommunications Act of 1996 and the 21st Century Communications and Video Accessibility Act of 2010.

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### **Section 255 Compliance:**

One major area of concern under Section 255 is Hearing Aid Compatible (HAC) phones. According to CTIA, there are more than 630 unique wireless devices available in the U.S. market and not all of those devices are intended to be held to the ear for voice communications (e.g. tablets, wireless broadband modems, etc.).<sup>13</sup> From the FCC's most recent data on HAC wireless handsets, there were over 300 wireless handsets available to consumers with a HAC rating of M3 or M4 and 250 with a T3 or T4 HAC rating and only 90 non-HAC wireless handsets.<sup>14</sup> Since hearing aids are not required to display HAC ratings, it is much easier for a consumer to look up the HAC rating on the phone, whereas he or she cannot get the same rating information pertaining to their own hearing aids because the Food and Drug

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<sup>12</sup> [www.npr.org/blogs/inside/2011/01/01/132517580/at-ces-2011-moving-radio-captioning-forward](http://www.npr.org/blogs/inside/2011/01/01/132517580/at-ces-2011-moving-radio-captioning-forward)

<sup>13</sup> CTIA HAC Comments (Pg. 3-4): <http://apps.fcc.gov/ecfs/comment/view?id=6016880236> and CTIA Stats: <http://blog.ctia.org/2011/12/28/us-wireless-competitive/>

<sup>14</sup> FCC 2011 HAC Data: [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-309123A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-309123A1.pdf)

Administration (FDA) has yet to require such labeling on these devices.

Another area under Section 255 covers the Interactive Voice Response phone system where users select phone menu options by either pushing a button or saying a key word. They used to time out quickly which forced relay calls to dial back and start over on the same call each time they were slow in responding to a verbal list of menu options. Now, because the timing issue has been lengthened, users are able to utilize phone menus more quickly and easily, even while using TRS relay services.

Answering machines and voice mail systems only allow voice messages, but that is beginning to change. Some smart phone users who are deaf or hard of hearing route incoming calls to Google Talk, an instant messaging application that transcribes verbal messages into text using the same speech recognition technology that is provided in the captioning feature on YouTube. Some members of the deaf and hard of hearing community say the technology works fairly well for calls where the speaker can be clearly heard with minimal background noise. Still, no video answering machines exist in the general marketplace except those sign mail features provided on videophones and software from specific VRS providers.

### **Section 716 Compliance:**

ACS must be accessible. There are plenty of current and emerging advanced communication services that are inaccessible, and at this pace, it could be several years before deaf, hard of hearing and deaf blind people can fully utilize all the features to connect with others around them.

#### 1. Video Conferencing Services

Video conferencing services have been a boon for many Americans who are now able to see the other person while communicating through these services with friends, family, and colleagues. While many deaf and hard of hearing people also enjoy video conferencing services, these services are not completely accessible and usable by deaf and hard of hearing people.

First of all, none of these mainstream video conferencing services are able to include relay services in these calls. For many years hearing individuals communicated with each other over the telephone system, but the Americans with Disabilities Act (ADA) made the telephone system accessible to deaf and hard of hearing people with the establishment of telecommunications relay services (TRS). Now many Americans are using Internet-based video conferencing services in lieu of traditional telephones, but deaf and hard of hearing people are not able to access these video conferencing services since they remain isolated from any form of TRS. We have heard stories of deaf employees wanting to join work video conferencing calls but not being able to do so due to the lack of TRS access. One may argue that deaf and hard of hearing people should just use the traditional telephone system and relay service for these calls, however, this means that the deaf and hard of hearing people will not be able to benefit from visual information in the calls such as diagrams, body language, facial expressions, and even presentation slides. Sometimes, a deaf person using a computer would be forced to switch between the video or Internet relay in one browser application, and the video conferencing that his coworkers are using in a different browser. It becomes necessary to integrate TRS into video conferencing services and Google has shown that it is possible to support both CART and video remote interpreting in the Google+ Hangouts video

conferencing service.<sup>15</sup>

Involving relay services in video conferencing is a logical extension of allowing relay in audio bridges. The only thing that changes is that the audio bridge is replaced by a combined audio/video bridge, and that needs to be allowed under FCC rules. We believe that incorporating VRS in video conferencing would save TRS minutes if multiple deaf and hard of hearing participants call in as this could allow for the sharing of a single interpreter.

Second, many video conferencing services are not interoperable with hardware video phones provided by Video Relay Service (VRS) companies. Deaf and hard of hearing people who only have hardware video phones provided by VRS companies are unable to connect to people who are using commercial video conferencing services such as Skype, FaceTime, or the like. This interoperability barrier has relegated many deaf and hard of hearing people to a virtual ghetto where they're only able to make video conferencing calls with other deaf or hard of hearing people through the relay service. These people can only connect to their hearing friends, family and co-workers. While many deaf and hard of hearing people utilize mainstream video conferencing services to communicate with hearing people, many, especially older, deaf and hard of hearing people, do not have computers with webcams and only have hardware video phones from VRS providers. Additionally, when these deaf and hard of hearing people are visiting hearing family members, friends or colleagues, and these individuals do not have video phones or video phone software at their homes, then the deaf person cannot make a phone

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<sup>15</sup> <http://thenextweb.com/insider/2012/07/11/the-google-hangout-that-changed-the-way-i-will-view-communication-forever/> and <http://www.jaredlog.com/?p=1712>

call at that home. We essentially have a system where deaf and hard of hearing people have their own segregated telephone system that cannot connect to the mainstream. We urge the Commission to end this segregation and require interoperability between video phones and mainstream video conferencing services as well as allow hearing people to have TRS 10 digit phone numbers. Even within VRS, there is a lack of interoperability among videophone devices. The Technology Access Program at Gallaudet University reported at the recent National Association of the Deaf Conference that 50 percent of all possible videophone combinations are not fully interoperable. <sup>16</sup>

Third, the majority of mainstream video conferencing services are not interoperable with each other. Many deaf and hard of hearing people use video conferencing services to communicate with each other in the same way that hearing people communicate with one another via the telephone. Since these mainstream video conferencing services are not interoperable with each other, we often have to have accounts with several different providers so that we can make calls to people using a wide variety of these services. It's an inconvenience and somewhat similar to a hearing person having to have telephone accounts/phones with several different phone carriers.

On some devices, memory limitations may force the user to install and uninstall video chat applications in order to communicate with a friend who does not have the same software. Section #4 covers a disturbing trend in the industry that can reverse positive gains in our accessibility and undo recent ystrides in innovation.

## 2. Games and Gaming Systems

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<sup>16</sup> Video Quality and Interoperability across Videophones Today and in the Future, available at <http://tap.gallaudet.edu/Conferences/NAD2012/>

Many deaf and hard of hearing people are still unable to access games that utilize ACS components for communication between participants. In many online multi-player games, players communicate with each other not only during game play but also prior to and following the games. As we mentioned previously in our opposition to ESA's petition<sup>17</sup> for waiver, members of the gaming community use ACS for many purposes, including:

- communicating with teammates and opponents about real-time developments during multi-player game play;<sup>18</sup>
- strategizing before, during and after game play;
- chatting with friends and team members about games and avatars, but also about many other things, such as catching up on friendships, swapping information on subjects other than the game, and the like both inside and outside game play;
- video and audio streaming and playback; and
- use of third party software such as Facebook and Skype.

It is most unfortunate that deaf and hard of hearing people are still waiting for full access to multi-player online games which have become incredibly popular among teens and young adults. It used to be that gamers communicated with each other via text on the screen, but most now communicate through headphones and microphones during game play. Since online games are run by any number of players in various places around the world, it would make sense to include relay services so deaf and hard of hearing people

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<sup>17</sup> <http://apps.fcc.gov/ecfs/comment/view?z=feqb2&id=6017038899>

<sup>18</sup> Instructive are media discussions such as this: "It's not hard to see the advantages of being able to talk to each other in the game. The main thing is - no more dying while typing out your favorite insult or organizing your teammates. In many cases it changes the flow of the game significantly and gives those who use it a definite edge." See About.com, "Using Voice Chat in Games: Headsets Becoming Essential Game Hardware," available at <http://internetgames.about.com/cs/hardware/a/aavoice.htm>.

can participate fully in remote communications.

### 3. Vibration and Alerting Settings

Vibration remains a concern. Some applications vibrate to alert the user of an incoming message. However, this feature is not available across all applications that perform similar functions. You may be able to feel vibration when an incoming SMS message is detected, but not when a new email comes into your inbox. On some applications, vibrations are minimal and can be easily missed. The user should have the option to adjust the intensity to receive stronger vibrations and change the pulsing patterns, which will make it functionally equivalent to adjusting features available in ring tones. On some phones, there is only a small blinking light that flashes when there is an incoming message. One bigger issue is that house-wide signaling systems are largely incompatible with modern telecommunications equipment, because the former uses the legacy RJ-11 jack to connect to equipment.

### 4. Data Caps

The consumer groups are disturbed by a growing trend among wireless carriers where they're no longer offering unlimited data plans and are instead metering and capping their data plans. Many deaf or hard of hearing people are especially reliant on data based telecommunications from their wireless devices and are suffering disproportionately from data caps and the metering of data plans. We use data plans to send emails, instant messages, and communicate via video conferencing services. These data based communications use significant amounts of data, especially video conferencing. Video conferencing services are to deaf and hard of hearing individuals the equivalent of what traditional telephones are to people who can hear. Additionally, both

VRS and text based relays use data.

We have heard from our members that many of them are exceeding these wireless monthly data caps of 2 GB or 3 GB and many are paying overage fees. We foresee this becoming a larger problem as wireless network speeds improve and more and more deaf and hard of hearing people make video and video relay calls from their mobile devices. Since we require video conferencing services for direct communication access in telecommunications, we don't have the ability to buy a cheap phone with an inexpensive phone plan. Instead, the majority of us have to splurge for fancy smartphones and expensive data plans as well as additional fees for exceeding monthly caps. It does not help that deaf and hard of hearing people suffer disproportionately higher unemployment rates and job discrimination.

Data caps and other metering plans threatens a double whammy for people who are deaf with another disability such as a vision or motor disability, which often results in needing more time to carry a conversation.

The consumer groups have been talking with the major wireless providers and discussing possible solutions to the data caps and metering plans to ensure that the deaf and hard of hearing community does not experience a significant disparity in costs.

##### 5. Access for the Deaf-Blind

Although the National Deaf-Blind Equipment Distribution Program (NDBEDP) is a step forward, it does not resolve fundamental telecommunication access barriers that the deaf-blind face. In particular, those for whom ASL is the primary mode of communication, as well as those who have limited computer literacy, stand to reap only very limited benefits from the NDBEDP. A large group of deaf blind people would

benefit greatly from having Communication Facilitators, interpreters who are physically present to translate a videophone call. The FCC needs to develop new forms of relay services to accommodate the needs of people who are deaf and have another disability.<sup>19</sup>

**A National TRS Office:**

We call upon the FCC to supplement the good work that CGB and DRO is doing by creating an office devoted to TRS. Not only would the new National TRS Office handle the growing administrative duties in operating a vital service, but also create incentives to spur research and development, as well as create new services that provide access effectively and efficiently.

**CONCLUSION**

We urge the Commission to explore new ways to make wireless telecommunications more affordable and accessible for Americans who are deaf, late-deafened, hard of hearing, deaf-blind, or deaf and with motor disabilities that affect their way of communication.

Respectfully submitted

/s/ Claude L. Stout

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<sup>19</sup> <http://apps.fcc.gov/ecfs/comment/view?id=6016478736> Petition by Consumer Groups led by American Association of the Deaf Blind.

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