

**TESTIMONY OF
K. DANE SNOWDEN
VICE PRESIDENT, EXTERNAL AND STATE AFFAIRS
CTIA – THE WIRELESS ASSOCIATION®**

**BEFORE THE HOUSE
SUBCOMMITTEE ON TELECOMMUNICATIONS AND
THE INTERNET**

May 1, 2008

Good morning, Chairman Markey, Ranking Member Stearns and members of the Subcommittee. My name is Dane Snowden, and I am Vice President of External and State Affairs for CTIA – The Wireless Association®. Thank you for affording me this opportunity to share with you the views of CTIA and our member companies on the staff discussion draft Twenty-first Century Communications and Video Accessibility Act of 2008.

Prior to joining CTIA, I was Chief of the Federal Communication Commission's Consumer & Government Affairs Bureau (CGB) from 2001 to 2005. As CGB Chief, I directed policies such as Telecommunications Access for People with Disabilities, Telemarketing (Do-Not-Call Registry), and Wireless Spam. As CTIA's VP of External and State Affairs, I work with key consumer groups, including the disability community and senior citizens to facilitate open lines of communication with the wireless industry and collaborate on key issues. Additionally, I am currently a member of the Advisory Board of the Rehabilitation Engineering Research Center on Mobile Wireless Technology for Persons with Disabilities (Wireless RERC).

I want to share with you a sample of the efforts our industry has, and is making, to improve the accessibility of innovative communications technologies to the disability

community. I hope to provide the Subcommittee with a better understanding as to why this well-intentioned legislation, as currently drafted, may not achieve its intended purpose.

I. THE WIRELESS INDUSTRY IS AND WILL CONTINUE TO PROVIDE ACCESS TO OUR CUSTOMERS WITH DISABILITIES.

Today, CTIA member companies serve more than 255 million consumers, carry more than 1 trillion minutes of use on their networks every year, and offer access to a wide variety of wireless telecommunications devices and services. In fact, since 1996 when Congress amended the Communications Act with Section 255, the wireless industry has taken great strides to make our products and services more accessible to our customers with disabilities. These new products and services that incorporate accessibility features have helped to further empower consumers with disabilities as they work, transact personal business, and keep in touch with family and friends.

Today, there are cell phones that use voice recognition for dialing and menu selection and new software will even “read out” or magnify what is on the display screen – making the device much easier to use by customers who are blind or have low vision. For customers who are deaf or have speech disabilities, all wireless phones are TTY compatible. Customers who are hard of hearing benefit from wireless phones being compatible with hearing aid t-coils and the lowering of radio frequency interference levels for hearing aid users. Consumers with mobility limitations benefit from the ability to answer the phone hands-free, use the speaker phone, and use the voice recognition capabilities for dialing and menu selection. And consumers with cognitive disabilities can benefit from many cell phones that provide prompts to help users through the process of menu selection, or offer picture Caller ID or use of symbols / icons for cell phone functions instead of text.

We are also finding that many of the features that make our products easier to use by people with disabilities also make them easier to use by people without disabilities. Features such as larger font size, vibrating alerts, backlit keys and display screens, clearer contrasts, ring tones with different frequencies, text messaging, as well as many other features that are making our products and services easier to use by all of our customers.

Industry Initiatives

CTIA and its member companies believe that all Americans should have access to wireless communications, and the industry is committed to providing the disability community with the most advanced technologies. The wireless industry has a proactive and proven commitment to providing products and services to and collaborating with the disability community without regulatory intervention. For example, Microsoft recently announced that “Accessibility” officially became part of Microsoft’s Trustworthy Computing organization (TWC) as part of the Business Practice pillar that also includes Privacy, Security and Reliability. In addition, Motorola Smart Phones and HP Pocket PCs were engineered so that screen readers and magnifiers that are compatible with Microsoft’s Windows Operating System will work on these devices. Finally, CTIA carrier members provide information about their accessible devices and services directly on their websites.¹ Many of these and other examples from our member companies can be found on CTIA’s www.AccessWireless.org website.

We also continue to work collaboratively with the disability community to ensure that they have access to a number of telecommunications services and devices through the

¹ See, AT&T Wireless, <http://www.wireless.att.com/about/disability-resources/hearing-aid-compatibility.jsp>, T-Mobile, http://www.t-mobile.com/Company/Community.aspx?tp=Abt_Tab_Safety&tsp=Abt_Sub_TTYPolicy, and Verizon Wireless, <http://aboutus.vzw.com/accessibility/resources.html> (last visited April 28, 2008).

Alliance for Telecommunications Industry Solutions (ATIS)² Hearing Aid Compatibility Incubator process. In fact, after CTIA and the disability community worked together to advise the FCC on Hearing Aid Compatibility (HAC) requirements, consumers who use hearing aids are now offered their choice of high and low end wireless devices and services at prices that fit their lifestyle.

Additionally, representatives from four industry associations and eleven Information Technology companies recently completed a two year process of working alongside our disability community colleagues, standard-setting bodies in the U.S. and abroad, and government agencies to come up with solutions to meet many of the needs outlined in the proposed legislation.³ The Telecommunications, Electronic, and Information Technology Advisory Committee (TEITAC) presented its final report, as well as 11 TEITAC member alternate reports, to the U.S. Access Board on April 3, 2008, which can be found at <http://www.access-board.gov/sec508/update-index.htm>.

These collaborative processes have proven effective at addressing the fast-moving, innovative and ever-changing aspects of our industry with careful attention on balancing

² ATIS is a United States based body that is committed to rapidly developing and promoting technical and operations standards for the communications and related information technologies industry worldwide using a pragmatic, flexible and open approach. ATIS prioritizes the industry's most pressing, technical and operational issues, and creates interoperable, implementable, end to end solutions -- standards when the industry needs them and where they need them.

³ TEITAC industry members included CTIA — The Wireless Association, Information Technology Association of America, Information Technology Industry Council, Telecommunications Industry Association, Adobe Systems, Inc., AOL, LLC, Apple, Inc., AT&T, Avaya, Inc., Canon USA, Inc., Dell, Inc., IBM, Microsoft Corporation, Panasonic Corporation of North America, and Sun Microsystems, Inc. TEITAC disability representative members included American Association of People with Disabilities, American Council of the Blind, American Foundation for the Blind, Assistive Technology Industry Association, Communication Service for the Deaf, Hearing Loss Association of America, National Center on Disability and Access to Education, National Federation of the Blind, Paralyzed Veterans of America, Trace Research and Development Center, Usability Professionals' Association, and WGBH National Center for Accessible Media. A complete list can be found at <http://www.access-board.gov/sec508/update-index.htm> (last visited April 27, 2008).

the needs of consumers with disabilities. CTIA and its members are committed to continuing these and future collaborative initiatives in partnership with the disability community.

II. COMMUNICATIONS ACCESS: *DEFINITIONS, READILY ACHIEVABLE, REMEDIES and REPORTING*

We applaud the Committee's efforts to review and ensure the disability community has access to emerging communications capabilities. Consistent with Section 255 of the Communications Act, which establishes access requirements for telecommunications services and equipment, we believe that the same "readily achievable" standard should be utilized in any new legislation; that the legislation should not be enforced by private litigation; and that such legislation should not impose new reporting requirements on either service providers or manufacturers. As currently drafted, the proposed legislation would unnecessarily burden the industry with little countervailing benefit to the disability community.

Definitions

Our industry has a proven track record of innovation under the current Section 255 framework, but we are concerned that the essentially open-ended mandates in the current draft could actually threaten future advancement of new technologies by inhibiting the current cooperative activities. The current regulatory framework has created the flexibility and certainty for the wireless industry to increase access to wireless services and products. This framework should be allowed to continue and, by doing so, access to current and future technologies will flourish without being subject to what may soon be outdated statutory and regulatory models.

Additionally, the current draft fails to distinguish between manufacturers, service providers and third party application or content providers. As service providers move to an open access model, wireless users will increasingly obtain services and applications from third parties over whom wireless providers and manufacturers will have little or no control. Service providers and manufacturers should not have to bear accessibility compliance responsibility for these third party services and applications. Any new requirements must take account of the wireless industry's evolution to an open access regime.

Undue Burden v. Readily Achievable Standards

I previously described the wireless industry's compliance and success in meeting the original Congressional policy directive, embodied in Section 255, to make communications products and services accessible to those with a variety of disabilities. That was due in no small measure to the fact that Section 255's "readily achievable" standard affords manufacturers and service providers the needed flexibility to incorporate accessibility design and functionality into rapidly evolving telecommunications products and services. As currently drafted, however, the legislation requires manufacturers and service providers to comply with an "undue burden" standard. We believe that standard is inappropriate to govern accessibility to communications services and equipment.

The Americans with Disabilities Act (ADA) "undue burden" standard was originally enacted to apply to permanent buildings and other structures, and is a more stringent standard that has never been used to measure commercial, consumer product development where the product has a short life cycle and technologies are continuously evolving. This "undue burden" standard is more rigorous than the current Section 255 "readily achievable" standard and would introduce uncertainty and additional cost into the design of new products where

no specific or demonstrated concerns have been identified. Alternatively, maintaining the “readily achievable” standard enables manufacturers and consumers to benefit from the design processes and procedures developed to implement Section 255 and now embedded in industry practices. A change to the current standard may result in a disruption to the planning and design process that could undermine manufacturers’ efforts to bring accessible products to market in a timely manner. “Readily achievable” also benefits consumers because the products and services that are readily achievable are always changing as technology evolves and costs for features that were once rare and expensive, become standard and affordable in later generations.

It is important to note that there has been demonstrable progress in delivering a wide variety of products and services with substantially improved accessibility features to consumers. In addition to the examples I mentioned above, consumers now have access to mobile phones with keys that are easily identifiable by touch, keypad shortcuts like one-touch dialing, audible battery and signal strength indicators, voice dialing, voice recording, voice commands, different tones for power on and power off, text-to-speech capabilities, speech recognition capabilities, visual display of text, compatibility with hearing aids, speaker phone with voice-activated answering and much more. Most of the foregoing accessibility advancements were developed using the “readily achievable” standard, which appropriately balances the need to foster innovation and industry’s commitment to meet the accessibility needs of consumers.

Remedies

With respect to any proposed remedies, CTIA does not believe this legislation should encourage enforcement by means of private litigation. In its Section 255 Report and Order, the FCC indicated that it can employ its full range of sanctions and remedies to enforce the

accessibility requirements, and it rejected claims that Section 255's preclusion of private rights of action deprived the Commission of any authority to entertain requests for damages on behalf of individual complainants.⁴ The FCC's sanctions are and continue to be deterrents for companies that do not comply with Section 255. Additionally, the FCC is more appropriately suited than Federal judges to resolve any technical issues arising from non-compliance with Section 255. Finally, litigation costs resulting from private rights of action lawsuits would undoubtedly divert attention and resources from investment and innovation. Taken collectively, CTIA believes that the FCC's clear authority in this area, the risk of inconsistent judicial interpretation, and the potential diversion of resources counsel against authorization of private enforcement actions as a remedy to enforce the proposed legislation.

Reporting Requirements and Consumer Complaints

As Chief of CGB, I noticed that complaints about wireless devices and services from consumers with disabilities were few and not in the top categories of complaints against the wireless industry. But regardless of the complaint volume, the FCC always reviews the complaint trends – big or small. The FCC's existing complaint process is fully capable and committed to addressing any alleged failure to provide services and equipment that are accessible and ensure service providers respond promptly. Therefore, new reporting requirements should not be imposed on service providers or equipment manufacturers.

Alternatively, we support the FCC's suggestion in its Section 255 VoIP Order that an advisory committee be established to address accessibility concerns related to VoIP. We also support the draft's proposal to establish a clearinghouse of information on availability of accessible products and services. This would not only provide a great educational value

⁴ FCC Rules and Policies Implementing Section 255 of the Telecommunications Act of 1996 and Section 251(a)(2) of the Communications Act of 1934, Report & Order, para. 113 & 115 (July 14, 1999) (FCC Section 255 R&O).

to the disability community, but provide an account of the accessible technology marketplace to determine whether there is market failure.

III. VIDEO SERVICES: *CLOSED CAPTIONING and VIDEO SERVICE*

CAPABILITIES

Closed captioning of video programming benefits all consumers, but as currently drafted, the legislation requires an entirely new class of multifunctional products, such as wireless handsets and devices, which receive and display video from many different sources to adopt closed captioning solutions. Closed captioning is a system that relies on industry developed standards for transmission and reception/decoding of captions and imposing burdensome requirements before standards are adopted would slow development of these products and hinder innovation. Additionally, the feasibility of having closed captioning on small screen devices may be impractical from a user perspective.

Currently, there are a number of ongoing industry initiatives to address closed captioning of web-based content and new video devices, but other standards need to be developed and adopted for broadband and mobile video services to ensure accessibility. Given the multitude of video programming sources consumers can now receive, we believe that the best course is to give these industry initiatives an opportunity to address closed captioning over new platforms before legislating in this area.

IV. CONCLUSION

The wireless industry serves more than 255 million consumers who use our products and services daily for safety, convenience and enjoyment. We often take the intricacies of wireless services for granted, but the work of hundreds of thousands of dedicated men and women every day is necessary to build, maintain, and expand a robust and secure wireless

industry. CTIA commends you, Chairman Markey, for encouraging the industry to provide consumers with disabilities greater access to innovative products and services. We look forward to working with the Committee to craft policies that serve the needs of people with disabilities and ensure the continued success of Section 255 for all Americans. We welcome any questions you may have.

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Wireless devices increasingly helping people with disabilities

Published: Sunday, 24-Feb-2008

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Mirroring a trend among the general public, an increasing number of people with disabilities regularly use wireless technologies, including cell phones - and find them easier to use.

But a number of people with disabilities cite a need for improved functionality of wireless devices, such as a feature to enable service dogs to call for help in an emergency, according to the initial results of a survey funded by the U.S. Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR).

Wireless device ownership increased 13 percent - from 72 to 85 percent - among people with disabilities from the first generation of the survey of user needs - conducted from 2001 to 2006 - and the current survey, which began in April 2007. Also, more than three-fourths of respondents last year reported that their wireless devices are easy or very easy to use, compared to only half of those who responded to the earlier survey. Still, 73 percent said they likely would change wireless service providers, if necessary, to get additional features that enhance accessibility.

"The data these consumers share through our research helps our wireless industry partners meet customers' needs and also helps identify applications useful to people without disabilities," said survey project director Jim Mueller of the Wireless Rehabilitation Engineering Research Center (RERC), a collaboration between Atlanta-based Shepherd Center and the Georgia Institute of Technology. "We are not encouraging the wireless companies to make special products. We want products that will work for everyone."

The RERC, which received its second, multi-year grant from NIDRR in 2006, promotes equitable access to wireless technologies and encourages adoption of universal design -design that benefits users of all ages and abilities - in future generations of wireless devices and applications.

The 1,208 people who completed the RERC survey in 2007 are representative of a large portion of the estimated 40 million Americans with disabilities, researchers noted. They compared the demographics of survey respondents to the U.S. Census and noted that 77 percent of respondents are 25-61 years of age; 5 percent are younger; 18 percent are older.

Researchers are comparing and contrasting the initial results from the current survey to the RERC's previous user-needs survey of 1,200 people. Also, they are tracking trends among 165 people who have participated in both studies. In addition, researchers are comparing their results to findings reported by other wireless industry groups in 2007.

Here are some highlights from the analysis:

- Comparing the earlier survey results to the current responses, researchers found that respondents who use their wireless devices every day increased from 40 to 65 percent. Those who consider their wireless devices "very important" increased from 60 to 77 percent.

- Explaining why wireless devices are important to them, survey participants cited convenience and a sense of security - much like the general population. But they also noted that wireless devices often serve as assistive technologies. For example, one respondent noted, "The camera helps me remember things." Another participant reported that with the texting feature, "I can communicate with hearing people, like hearing people use cell phones."
- Among respondents to the survey last year, 77 percent said they are satisfied, very satisfied or extremely satisfied with their current wireless provider.
- About 68 percent of 2007 survey respondents said they are satisfied, very satisfied or extremely satisfied with their present wireless devices.
- The most important wireless functions cited by survey participants are: voice communication, 78 percent; Enhanced 911, 45 percent; text messaging, 43 percent; e-mail, 41 percent; and Internet access, 35 percent.
- The most important handset features to these users are: long battery life, 63 percent; durability and toughness, 61 percent; low cost, 57 percent; and simple operation, 56 percent.
- Survey respondents suggested some additional features they would like to have in a wireless device: "feature to enable service dog to call for help in emergency"; "ability to switch to voice carry-over during call (in case voice becomes unintelligible or environmental noise is too great)"; and "[ability to] scan and speak medication labels."
- Survey respondents also commented on ways to make wireless devices easier to use. Their comments related to: incompatibility with assistive technologies, especially hearing aids or cochlear implants, design of the handset, including their difficulties holding it, seeing the display, and manipulating the controls.

People with disabilities may participate through 2011 in the RERC survey, which is available online at <http://www.wirelessrerc.org>. The survey is also available by phone and in print. For more information, call 800-582-6360, send email to rerc@wirelessrerc.org or send correspondence via regular mail to:

Wireless RERC Research Coordinator
 Crawford Research Institute
 Shepherd Center
 2020 Peachtree Road NW
 Atlanta, GA 30309.

About Shepherd Center
 Shepherd Center is a private, not-for-profit hospital devoted to the medical care and rehabilitation of people with spinal cord injury and disease, acquired brain injury, multiple sclerosis and other neuromuscular problems. Each year Shepherd Center admits more than 750 patients and conducts thousands of outpatient clinic visits. For more information, visit Shepherd Center online at <http://www.shepherd.org>.

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Cell Phone Can Read Documents for Blind

January 28, 2008 - 12:18am

By ALEX DOMINGUEZ
Associated Press Writer

BALTIMORE (AP) - [Chris Danielsen](#) fidgets with the cell phone, holding it over a \$20 bill.

"Detecting orientation, processing [U.S. currency image](#)," the phone says in a flat monotone before Danielsen snaps a photo. A few seconds later, the phone says, "Twenty dollars."

Danielsen, a spokesman for the [National Federation of the Blind](#), is holding the next generation of computerized aids for the blind and visually impaired.

The [Nokia](#) cell phone is loaded with software that turns text on photographed documents into speech. In addition to telling whether a bill is worth \$1, \$5, \$10 or \$20, it also allows users to read anything that is photographed, whether it's a restaurant menu, a phone book or a fax.

While the technology is not new, the NFB and the software's developer say the cell phone is the first to incorporate the text-to-speech ability.

"We've had reading devices before," Danielsen said, noting similar software is already available in a larger handheld reader housed in a personal digital assistant. Companies such as [Code Factory SL](#), [Dolphin Computer Access Ltd.](#) and [Nuance Communications Inc.](#) also provide software that allows the blind to use cell phones and PDAs.

Inexpensive hand-held scanners such as [WizCom Technologies Ltd.](#)'s SuperPen can scan limited amounts of text, read it aloud and even translate from other languages.

However, the \$2,100 NFB device combines all of those functions in one smart phone, said [James Gashel](#), vice president of business development for [K-NFB Reading Technology Inc.](#), which is marketing the phone as a joint venture between the federation and software developer [Ray Kurzweil](#).

"It is the next step, but this is a huge leap," Gashel, who is blind, said in a telephone interview. "I'm talking to you on the device I also use to read things. I can put it in my pocket and at the touch of a button, in 20 seconds, be reading something I need to read in print."

Ray Kurzweil, who developed the first device that could convert text into audio in the 1970s and the current NFB device, said portability is only the first step. Future versions of the device will recognize faces, identify rooms and translate text from other languages for the blind and the sighted.

The inventor plans to begin marketing the cell phone in February through K-NFB Reading Technology. The software will cost \$1,595 and the cell phone is expected to cost about \$500, [Kurzweil](#) said.

[Dave Doermann](#), president of [College Park](#)-based Applied Media Analysis said his company is working on similar software for smart phones that could be used by the military for translation and by the visually impaired.

"We don't anticipate ours being that expensive, but unfortunately we're not quite to the release yet," said Doermann, who is also co-director of the [University of Maryland's Laboratory for Language and Media Processing](#).

Doermann said the company, which has received funding from the [Department of Defense](#) and the [National Eye Institute](#), hopes to have its software ready in the next 12 to 18 months.

Kurzweil's device uses speech software provided by Nuance, said [Chris Strammiello](#), the director of product management at Nuance, who said the company has also developed a prototype reader that uses the Internet to access more powerful server-side computers.

"As you can harness the power of remote environments and do that so quickly with the Web technologies, it gives a lot more capability, flexibility and options to the way you solve these type of problems," Strammiello said.

There are about 10 million blind and visually impaired people in the U.S., a number that is expected to double in the next 30 years as baby boomers age.

Kurzweil said those with vision problems are not the only ones expected to benefit from the technology. Dyslexics, for example, are expected to be among the users of the current device because of its ability to highlight each word as it's read aloud, helping them cope with their disability, which affects the ability to read. The highlighting function can also help them improve their reading skills, he said.

"What's new here is both blind people and kids can do this with a device that fits in their shirt pocket," Kurzweil said.

[Marc Maurer](#), president of the National Federation of the Blind, said the device and its PDA predecessor are a "form of hand-held vision" that will make the visual environment "much more readily available to the blind."

National Federation of the Blind: <http://www.nfb.org/>

K-NFB Reading Technology Inc.: <http://www.knfbreader.com/>

Kurzweil Technologies Inc.: <http://www.kurzweiltech.com/ktihome.html>

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Double amputee walks again due to Bluetooth

STORY HIGHLIGHTS

- 2 wounded Iraq veterans are using prosthetics outfitted with Bluetooth
- Their artificial legs communicate via Bluetooth to coordinate movements
- Both vets are testing the legs for what could become more widespread use

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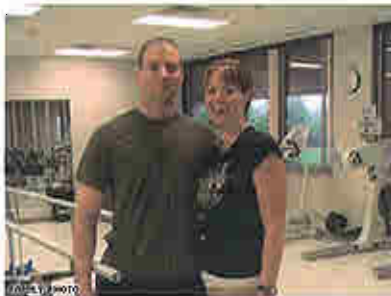
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WASHINGTON (CNN) — Marine Lance Cpl. Joshua Bleill lost both his legs above the knees when a bomb exploded under his Humvee while on patrol in Iraq on October 15, 2006. He has 32 pins in his hip and a 6-inch screw holding his pelvis together.



Joshua Bleill, pictured here with his girlfriend, is walking again with the aid of prosthetics outfitted with Bluetooth.

Now, he's starting to walk again with the help of prosthetic legs outfitted with Bluetooth technology more commonly associated with hands-free cell phones.

"They're the latest and greatest," Bleill said, referring to his groundbreaking artificial legs.

Bleill, 30, is one of two Iraq war veterans, both double leg amputees, to use the Bluetooth prosthetics. Computer chips in each leg send signals to motors in the artificial joints so the knees and ankles move in a coordinated fashion.

Bleill's set of prosthetics have Bluetooth receivers strapped to the ankle area. The Bluetooth device on each leg tells the other leg what it's doing, how it's moving, whether walking, standing or climbing steps, for example.

"They mimic each other, so for stride length, for amount of force coming up, going uphill, downhill and such, they can vary speed and then to stop them again," Bleill told CNN from Walter Reed Army Medical Center, where he's undergoing rehab.

"I will put resistance with my own thigh muscles to slow them down, so I can stop walking, which is always nice." [Watch Bleill demonstrate his legs](#)

Bluetooth is the name for short-range wireless technology that can connect computers to printers, MP3 players to speakers and — perhaps the most well-known use — cell phones to ear pieces.

Older models of computer-controlled legs have to be "programmed" via wire by laptop computers before the amputee can use them. Those legs required more movement from the amputee's remaining thigh muscle to generate motion in the prosthetic leg.

Because of built-in motors, the Bluetooth legs allow Bleill to walk longer before he tires.

"We've compared walking several laps in both sets of legs and one, your legs come out burning and tired and these, you know, you sometimes are not even breaking a sweat yet."

Bleill says the technology also means he spends less time in a wheelchair. The Marine uses canes to walk with them. He's hoping to get to the point where he can use one cane regularly, and eventually lose the cane altogether.

"I can walk without canes, but it's not real pretty," he said.

This new generation of prosthetic technology was originally conceived to help amputees who had lost only one leg. But it's working for Bleill and Army Lt.Col. Gregory Gadson, who is also using the Bluetooth devices in his legs.

What they are experiencing will help future amputees.

"We are the first ever to try this, so it's learning day-to-day. The [prosthetics] company comes down on a regular basis and checks in with us," Bleill said.

Gadson, a former linebacker at West Point, said they are breaking new ground for amputees. "I think we are kind of pioneering and hopefully blazing a trail for others to try the technology also," he said.

But the technology is not without some problems.

"It's only going to react to how I move," Bleill said. "Unfortunately, sometimes I don't know those reactions, I don't know what I'm doing to make it react. So sometimes the leg kicks harder than I want it to, or farther, and then I start perpetuating, and I start moving faster than I really want to."

Aside from the Bluetooth technology, Bleill's legs have one other thing in common with a cell phone. They need to be charged overnight. Currently, there are no spare batteries available.

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What are his long-range plans?

He just wants to make it back to his home state of Indiana and work for a charity or even help the NFL's Indianapolis Colts.

"They do a lot for the community," he said.

He added he simply wants "to give back."

"To, you know, just carry on a normal life. Go home, see my girlfriend, see my family." [E-mail to a friend](#)

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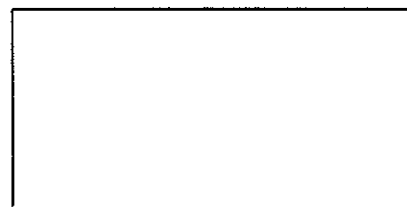
SEARCH

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Q. Does the information in this brochure apply to cochlear implants also?

A. Cochlear implants are not regulated by the FCC and therefore are not rated. However, devices rated for HAC may make it more likely that a cochlear implant user will be able to use a cell phone with minimal interference either on the M or T setting. The same rule of thumb applies though — try before you buy.

Try before you buy.
It's best to try several phones before making your purchase to find the best match with your hearing aid.

Q. Are devices rated for HAC more expensive than devices without hearing aid compatibility?

A. No, the range of features and functions of wireless devices will impact the price, but hearing aid compatibility will not. Service provider owned and operated stores will offer a range of devices with varying features and prices.

Q. I already have a wireless device. May I trade it in for a hearing aid compatible device?

A. You will need to consult with your service provider.

Q. What if I cannot find a wireless device that works with my hearing aid?

A. You can check with your hearing healthcare professional to determine if there is a hearing aid option for you that may work better with wireless devices. Some telecoil users may find that accessories such as neckloops may further assist with their use of wireless devices.

Q. How can I be "hands free" while using my wireless device?

A. Many states now require "hands free" driving while using wireless devices. If you use a telecoil, you may be able to use a neckloop. If you use the microphone mode in your hearing aid, you may be able to use the speaker phone function available on some wireless devices. If there is a Bluetooth accessory for your hearing aid, it may be able to work with Bluetooth enabled wireless devices. Remember safety first while driving.

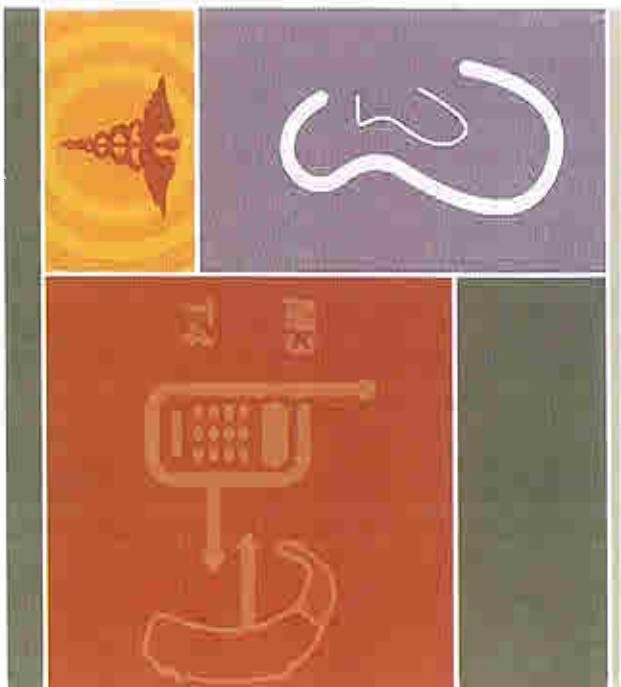
Resources for Consumers

Many people and organizations contribute to ensuring accessible communication is equally available for all individuals with disabilities, including consumers who have a hearing loss.

For more information

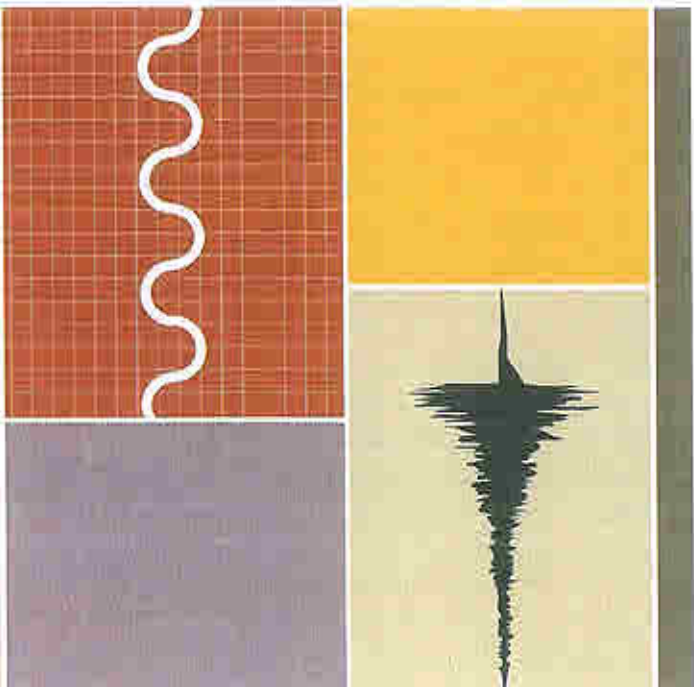
Visit <http://www.accesswireless.org> or <http://www.phonescoop.com> (show all options).

This brochure is courtesy of the
CTIA—The Wireless Association®
and
ATIS Hearing Aid Compatibility Incubator



Hearing Aid Compatibility with Wireless Phones and Services

www.AccessWireless.org



Hearing Aid Compatibility with Wireless Phones and Services

Frequently Asked Questions

Q. What does hearing aid compatibility (HAC) mean for wireless devices (e.g., Cell Phones and PDAs)?

A. The Federal Communications Commission (FCC) defines HAC for wireless devices in terms of two parameters: radio-frequency (RF) emissions and telecoil coupling. Cell phones are tested to see if they comply with the FCC's definition of hearing aid compatibility.

Q. How will I know if a wireless device is rated for HAC?

A. Information about whether a wireless device is rated for HAC can be found in three places: 1) on the display cards next to devices in service provider operated retail stores, 2) on the packages containing wireless devices, and 3) in the product's manual or packaging insert. The packages and display cards will be labeled with an "M" and/or "T" and a rating number. Only devices that are rated for HAC will be labeled in this way. If you see an "M3", "M4 T4" or "T3" label on the display card or packaging then the device is HAC compliant. If you have questions about the rating of a wireless device, ask the service provider or device manufacturer for more information.

Q. What does an "M3" or "M4" on the label mean?

A. "M" refers to the device's RF emissions level, and means the device is intended for use with hearing aids in microphone mode. The higher the "M" rating number on the device, the more likely you will be able to use the device with your hearing aid on the microphone setting.

Q. What does a "T3" or "T4" on the label mean?

A. "T" refers to the device's telecoil coupling ability, and means the device is intended for use with hearing aids in telecoil mode. The higher the "T" rating number on the device, the more likely you will be able to use the device with your hearing aid on the telecoil setting.

Q. What is a telecoil?

A. A telecoil is a small device that is built into some hearing aids for use with the telephone as well as assistive listening devices. To use the telecoil, generally either the hearing aid is switched to the "T" position or a button on the hearing aid is pushed to select the telecoil program. Some newer hearing aids will automatically switch to telecoil mode when using a phone. The telecoil picks up magnetic fields generated by telephones and converts these fields into sound. Telecoils are particularly useful for telephone communication because they permit the volume control of a hearing aid to be turned up without creating feedback or "whistling," and background noise can be reduced especially when using cell phones in noisy places. To determine whether your hearing aid contains a telecoil and how it is activated, ask your hearing health professional.

Q. What does hearing aid compatibility (HAC) mean for hearing aids?

A. Using the same measurement standard that wireless devices use to test for HAC, hearing aids can also be tested and rated for compatibility. This standard measures and rates the hearing aid's immunity to the typical electromagnetic outputs from wireless devices. An M1 or T1 is the poorest immunity rating, and an M4 or T4 is the best immunity rating. Your hearing healthcare professional may assist you in determining if your hearing aid has been rated.

Q. How do I know if my hearing aids will work with a particular cell phone?

A. If your hearing aid is rated for HAC like many wireless devices are, then there is a method for prediction: just add the rating of your hearing aid to the rating of the wireless device. A hearing aid rated M2 and a wireless device rated M3 combine to give an M rating of 5 and would likely provide "normal" use. An M rating combination of 6 would likely provide "excellent performance". The same would be true of T ratings. The higher the combination, the better the user experience is likely to be. Every individual's hearing loss is unique so ratings do not guarantee performance.

Q. Are there wireless devices I can use with my hearing aid on the telecoil setting?

A. Quite possibly. The FCC requires that wireless devices be rated for HAC specifically for hearing aids in telecoil mode. These devices are labeled with ratings of T3 or T4.

Q. Do the HAC ratings guarantee that I will be able to use a cell phone with my hearing aid?

A. Wireless devices that are rated for Hearing Aid Compatibility (HAC) should improve usability for hearing aid users. However, because of the highly individualized nature of hearing loss and hearing aids there is no guarantee.

Q. May I try a wireless device before I buy it?

A. Yes, it is advisable to try a wireless device with your hearing aid in the store before making a purchase. It's best to try several devices before buying to find the best match with your hearing aids. Visit a full service carrier store and ask to try devices that have been designated as "hearing aid compatible."

Q. Can I return a phone if it does not work for me after purchase?

A. It depends on the return policy. Be sure to understand the return policy, as well as, any early termination fees before signing up for any cell phone or service. Since a cell phone's RF emissions can change depending on your location, be sure to fully evaluate your listening experience outside the store during the return period.

Q. Who manufactures wireless devices that have been approved as HAC by the FCC?

A. All major handset manufacturers are required to offer HAC-compliant devices and may also offer hands-free accessories to improve usability.

Q. Do HAC compliant wireless devices look any different from other devices?

A. No.