

## Ellerbe Becket and DOJ Reach ADA Settlement Agreement

### "Unobstructed Sight Line" Issue Clarified

One of the nation's largest architectural firms has agreed to design future facilities so that all or almost all of the wheelchair seating locations provide persons with disabilities sight lines over the heads of people standing in front of them.

The agreement settles a lawsuit brought by the Department of Justice in October 1996. The suit alleges Ellerbe Becket violated the Americans with Disabilities Act (ADA) by designing six stadiums and arenas that failed to provide fans with disabilities who use wheelchairs lines of sight comparable to those of the general public. The facilities named in the suit were: the Fleet Center in Boston, the Marine Midland Arena in Buffalo, the Gund Arena in Cleveland, the Corestates Arena in Philadelphia, the Rose Garden in Portland, and the MCI Center in Washington, D.C.

Ellerbe Becket countered that ADA regulations were unclear and open to interpretation as to what precisely was being required and that all of its sports facilities provided a substantial number of elevated sightlines for spectators in wheelchairs.

See Agreement, page 3



An example of the controversial sightlines (the Olympic Stadium in Atlanta).

## Interest and Innovation in Acoustical Wayfinding

Ever try to hear an announcer over a loudspeaker when you're battling the cacophony of a subway system, train station, or an airport on a crowded day? Ever try to find your way around in a building designed with 45 degree angles and no visual landmarks? When extraneous noise is excessive, when visual relationships are difficult to comprehend, and you must rely on acoustical cues, it's usually not easy to find your way around.

Acoustical design should go way beyond ambiance. It should take into consideration every person that enters a public place — people with disabilities, the aging population, and people with visual and hearing impairments.

Structuring the environment to help people with visual impairments get from one point to another is called wayfinding. Architects, designers and builders could use acoustics to do this.

"Wayfinding is synonymous with the orientation component of orientation and mobility," says Bruce Blasch, a research health

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## The Past is But Prologue

This month marks the 8th anniversary of the Americans with Disabilities Act. Since its inception, we've seen dramatic changes in both the interpretation of the law and the expectations of the public. In particular businesses have been surprised by recent interpretations of what is considered reasonable and affordable to make facilities accessible to people with disabilities and people with disabilities are growing increasingly frustrated with their perception of the slowness or lack of enforcement.

All the while, ADA case law and the enforcement records are piling up. In addition to the cases discussed in FedWatch (page 3), consider :

- The National Collegiate Athletic Association (NCAA) and the Professional Golf Association (PGA) have both been ruled to be "public accommodations," making them responsible for complying with provisions of Title III of the ADA in their events and programs.

- The US Architectural and Transportation Barriers Compliance Board's (Access Board's) proposed design criteria for playgrounds promises accessibility to children throughout the country at a cost estimated in the hundreds of millions for elementary schools, day care centers and municipal recreation facilities, not to mention businesses (such as fast food restaurants with play areas).

- Many cultural and civic organizations with volunteer support will now have to make readily achievable modifications to their employee areas as well as their public areas, according to DOJ.

- Additional companion seating in front of the accessible seating locations (beyond the minimums required in the ADA Standards for Accessible Design (ADA Standards) is being required at the SCOPE arena in Norfolk, Va. as part of their settlement agreement with the DOJ.

- A newly constructed second floor addition for the Town of Tyrone, N.Y. is to be abandoned for all activities other than storage, since it didn't comply with the path of travel requirements of the ADA Standards.

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During this same period, *Mouth*, the bimonthly magazine that describes itself as the "voice of the disability nation," and *Mainstream*, the "magazine

of the able-disabled" have lambasted the DOJ for their lack of lawsuits enforcing the ADA. People with disabilities are growing impatient with the speed of change in our society. They are becoming organized and initiating lawsuits in every state of the union, challenging businesses and municipalities to provide equal access for everyone.

This is an important time to follow the development of accessibility criteria and legal interpretations of the ADA. After eight years we are finding many nuances of the basic requirements being redefined and expanded. The passage of the ADA was an important landmark, but this observer believes that it was only the prologue for a massive reevaluation of how we design buildings, products and systems in the United States.

### Letter to the Editor

#### California Code Change

In California, a state building change has been proposed to eliminate the hardship exemptions for Path of Travel components of alterations projects. Since 1981, path of travel upgrades to altered areas have been exempted, if the total cost of the alteration was below a cost threshold. Re-set yearly, the threshold has climbed steadily since the 1980s.

This effort is an attempt to bring California code into compliance with the Americans with Disabilities Act Standards for Accessible Design as the state attempts to have its code certified by the Department of Justice. This could have significant impact on the commercial and office rental stock in California. Eighteen years of tenant improvements were performed with this exception. Many jurisdictions continued to permit the exemptions after the passage of the ADA. Typically restroom, drinking fountain and public telephone access were exempted. Under the ADA, these may now require mitigation.

Public comment on the proposal can be sent to: Calif. Building Standards Commission, 1300 I Street, 7th Floor, Sacramento, CA95814.

*John Paul Scott, AIA*

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John P.S. Salmen, AIA - Publisher & Managing Editor; Denise Hofstedt - Editor; James DiLuigi and Elaine Ostroff - Consulting Editors. Contributing writers: Monique Silverio and Renee Zamanski. **Mail subscription rates:** One year \$75 (US). Second Class Postage paid at Takoma Park, MD. Postmaster send address changes to **Universal Design Newsletter**, 6 Grant Ave., Takoma Park, MD 20912-4324. For information on advertising rates or obtaining alternative accessible formats, please call or write the **Universal Design Newsletter** Editor.

#### Letters to the Editor

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**Franchisor Liability**

Federal courts are apparently split on whether or not franchisors are liable for Americans with Disabilities Act (ADA) violations.

The U.S District Court for the Central District of Illinois ruled in *United States v. Days Inns of America* that nationwide hotel franchisors, Days Inns of America Inc. (DIA) and its parent company Hospitality Franchise Systems Inc. (HFS), are responsible for violations of the ADA's new construction requirements at a Days Inn hotel in Champaign, Ill. Because of the extent of their supervisory role in carrying out the franchise agreement, the court found franchisors DIA and HFS liable because they had "designed and constructed" the facility and alternatively because they "operate" it. The court ordered that the case proceed on identifying specific violations of the ADA's Standards for Accessible Design and assessing damages.

In another case brought by the Department of Justice (DOJ), the US District Court for the Eastern District of California ruled that franchisors DIA and HFS were not responsible for new construction violations at Willows, Calif. Days Inn hotel. DOJ is appealing that decision and a similar, earlier ruling by the U.S. District Court for the District of South Dakota that the franchisors were not liable for violations at the Wall, S.D. Days Inn.

**Acoustics in Classrooms**

The US Architectural & Transportation Barriers Compliance Board (Access Board) has published a request for information on acoustics in response to a petition to establish requirements for acoustics in

classrooms. The deadline for comments is July 31. For more information contact [www.access-board.gov](http://www.access-board.gov)

**Access Board Accepting Comments on Play Facilities**

The Access Board is accepting comments on its Notice of Proposed Rulemaking on Play Facilities. The proposed guidelines were developed by a regulatory negotiation committee made up of representatives of people who would be affected by the guidelines. The deadline for comments is July 29.

**DOJ Settles with Branson, Mo. Restaurant and Architect**

DOJ entered into a settlement agreement with the Paradise Grill restaurant in Branson, Mo., resolving a complaint alleging that the restaurant was not designed and constructed in compliance with the new construction standards of the Americans with Disabilities Act. The owner and architect agreed to make the necessary changes to the parking facilities, main entrance, signage and restrooms. In addition, the architect paid \$1,000 and the owner paid \$1,500 in civil penalties.

**HUD Takes Action**

For the first time, the US Department of Housing and Urban Development (HUD) is requiring an Illinois builder to spend \$61,000 to fix eight ground floor condominiums that are not in compliance with the Fair Housing Act. The architect will pay \$9,000 to settle housing discrimination accusations. 

*... the court found franchisors DIA and HFS liable because they had "designed and constructed" the facility and alternatively because they "operate" it.*

**UK Mandates Visitable Homes**

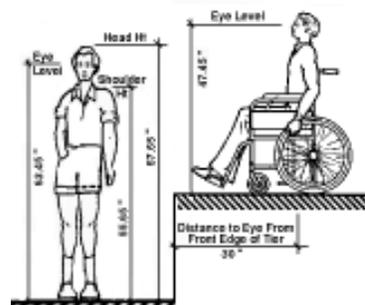
This spring the British Parliament passed legislation requiring that every new home must have an entrance without steps, a downstairs bathroom, sufficiently wide halls, doorways passable by wheelchairs and other elements of universal design.

"There will be direct benefits of increased convenience, accessibility and sociability for disabled people," according to UK Construction Minister Nick Raynsford. "The measures will also help significantly those people who are temporarily disabled through accident or injury, the elderly and those with young children in prams or push carts." The requirements will take effect in the spring of 1999. 

**Agreement, from page 1**

The agreement was approved by the U.S. District Court in Minneapolis and announced by DOJ on April 27, 1998.

**New Agreed Upon Dimensions  
Line of Sight**



## Acoustical Wayfinding, from page 1

scientist at the Atlanta VA Medical Center and one of the editors of *Foundations of Orientation Mobility*. “As mobility specialists, we teach people to use the environment to make their way around. We pay attention to things like building design that will facilitate them being oriented and moving around safely.”

David Lubman, a California acoustical consultant advises, “We should incorporate everyone when we design a space or building. We seem to make the same mistakes over and over. We forget that high noise or reverberation makes it impossible for [people with hearing impairments or visual impairments] and people with limited English proficiency to hear and find their way around.”

Standard noise criteria have worked well in some respects, says Lubman, but it is based on three assumptions. Those assumptions are:

- all users possess normal hearing,
- communication is intended for normal social discourse, and
- talkers and listeners are native to the American language.

**“The open office spaces, bigger malls and larger airports are places that make it hard to localize sounds. This makes it even more of a challenge.”**

Blasch agrees, “Sound is a major component for visually impaired persons. My feeling is that the environment is actually getting worse for them. Open office spaces, malls and large airports are places where it difficult to localize sounds.”

### Advances In Acoustical Wayfinding

There have been some innovative advances in acoustical wayfinding. For instance, acoustical wayfinding is now used at crosswalks in some cities in the form of beeping or chirping sounds. “Walk” and “Don’t Walk” signs beep to let people know when it’s okay to walk. In many airport moving walkways, an automated voice will prompt users when they approach the end of the walkway.

“You could apply these advances to many public places,” says Jeff Loether, founder and president of Electro-Media Design, Ltd. in Rockville, Md. “For instance, if a person gets too close to the edge of a train track, it could trigger a low growling noise or some other warning sound.

Another way of preventing the public from entering restricted spaces is to use low-level music, explains Loether. “The background music is played in the corridors and other public circulation areas so the music invites the public to be there. If they wander to an area where they shouldn’t be, the music will stop.”

Blasch points out other hi-tech wayfinding devices like the GPS—Global Positioning System. GPS systems give users their position from satellites. Arkenstone, a nonprofit organization that develops and distributes equipment to help people with visual and reading impairments, developed a GPS system interrelated with a mapping system where pedestrians can program their destination and get a verbal output describing the routes to get there.

“There are some limitations to these systems, but they have potential,” says Blasch. “GPSs don’t always work in big cities because tall buildings may affect reception from the satellite. But, we aren’t far off if we incorporate a device like this with cellular triangulation—using cell phone technology.

“There’s also been a lot of research at [the Massachusetts Institute of Technology] on computers the size of a pager so you can literally wear it on your belt,” says Blasch.

However, as Blasch points out, there are so few people who are legally blind in our population, turning out any kind of new technology in an affordable way is very difficult. “The thing to do is to tie the technology into something that everyone can use,” says Blasch. “This can bring the cost way

See Acoustical Wayfinding, page 5

## Reduced reverberation means access

by Robert Nichols and Gerald Henning

Auditory communication in the New York City railway system stations is difficult for patrons with normal hearing and almost impossible for those with hearing limitations. Noise from people and trains reverberates around the stations, making it extremely difficult to determine the direction from which the sound is emanating — a primary means of orientation for people with the visual impairments.

Our study of the railway system found that the reverberant noise levels in a typical New York City railway station are very high — so high, in fact, that it is difficult for those with no hearing loss to clearly decipher public announcements made over the audio system. These levels are due in large part to the prevalence of non-absorptive construction and finishes such as concrete, steel, and ceramic tile.

We found that high levels of reverberation in the stations could be cost-effectively reduced with the installation of various sound absorptive materials in strategic wall and ceiling locations. If implemented, everyone who relies on the railway system for transportation will benefit from clearer audio communications. For people with hearing and visual impairments, however, reduced reverberation in railway stations means access, self sufficiency and a better quality of life.

**Editor’s Note:** This is an excerpt from an article about a research project written by Robert Nichols, president of Nichols Design Associates Inc. and Gerald Henning, vice president of Miller Henning Associates Inc. The complete report is available from Nichols Design email NDARCH@pipeline.com or call 703.519.2198 (v/tty/fax). 

## Acoustical Wayfinding, from page 4

down.” He notes that cruise control was originally developed for people with disabilities.

### A Sign of the Times

Another commercially available item called Talking Signs® is cropping up across the country. Talking Signs® technology is an infrared wireless communications system that provides remote directional human voice messages to people with visual and print disabilities.

Short audio messages are broadcast by invisible infrared light beams from permanently installed transmitters to near-by hand-held receivers. The receiver decodes the signal and delivers the voice message through its speaker or headset. The system works indoors and outdoors.

For example, upon entering a lobby, a user might detect “information desk” when pointing the receiver directly ahead, “public telephones” when pointing to the right and “stairs to the second floor” when pointing to the left. The technology was pioneered and developed at Smith-Kettlewell Eye Research Institute, Rehabilitation Engineering Research Center in San Francisco.

Talking Signs® installations include Bay Area Rapid Transit (BART) and City Hall in San Francisco; the Lighthouse Inc. in New York City; Texas School for the Blind; and many others around the world, including in Japan and Scotland.

### Designer Be Aware

There are many common sense ways to include wayfinding concepts in architectural design. First, when designing a project, look at it from a practical point of view, says Blasch.

“Be aware and recognize when a problem is being created,” Blasch explains. “Think, ‘how can I design [this space] to reduce the environmental demand on different disability groups or people with limitations?’ Be aware of the technology that’s available.”

One device that won’t help, says Lubman, is installing ‘white’ or ‘pink’ noise in an open environment. While it creates a more private environment for others, it’s “warfare” for people with visual and hearing impairments.

Another critical element is lighting, says Blasch. He points out that 85 percent of all people who are legally blind have some vision so lighting is important.

Signage is also critical. It needs to be distinct, and placed consistently in the environment.

Finally, he says, have a logical layout. “If there’s a building with numerous 45 degree turns, it’s very difficult to maintain orientation,” he says. “Use sig-

nificant landmarks, something that makes it easy to find your way.

### The Future Sounds Bright

There’s great potential in the growth of acoustical wayfinding. Blasch shares an idea he calls “Cybercrumbs.” “It’s like using bread crumbs to find your way back,” he says. “We are looking to install wafer-type devices along the walls or baseboards [in buildings] to give feedback on direction.”

One such system is the Raynes Rail™, a handrail system that guides people through a facility using Braille messages. Designed by Coco Raynes, the rail provides continuous messages on its inner face. It describes the floor plan and corridor patterns and announces the location of offices, ramps, stairs and elevators.

Another option, Blasch explains, is voice output kiosks. People can access the kiosk for their location and determine how to get from one point to another. A voice-activated system was installed in Olympic Park in Atlanta. The problem, says Blasch, was that the technology wasn’t sophisticated enough to pick up on different accents and languages.

Research at Georgia Tech includes detectable tactile surfaces. Designers can design surface areas differently so a visually impaired person detects the difference between the edge of a railway track and a regular walkway.

“I think buildings are going to get a lot smarter,” adds Loether. “Buildings are going to know who is where. Door jams will know who walks through the door. There will be interactive response buildings so when you go to the receptionist’s desk and ask for Mr. Smith’s office, they give you a badge. As you walk down the hall and approach a “T,” the sensors in the wall will tell you what direction to go. The building will actually guide you to where you want to go. It’s in our future.”

**“It’s like using bread crumbs to find your way back,” he says. “We are looking to install wafer-type devices along the walls or baseboards to give feedback on direction.”**



A Nichols Design for improved acoustical design at Penn Station in New York City.



# Marketing a Universally Designed Home

## *It's Common Sense, But Will It Sell?*

**H**ow do you market a universally designed home to the general population? The key, according to Jackie Simon, with Avery Hess Realtors in Rockville, Md., is getting people to look ahead, beyond their immediate needs.

"People need to consider what their needs might be five or 10 years from now. So often, empty nesters — active and able in their 50s — move into a three-story townhouse. Ten years down the road, they start to feel the signs of aging, and that home becomes less suitable for them," she says.

"We're a nation of people in denial. We don't want to think about slowing down. We don't recognize that any one of us could become very seriously disabled in just the blink of an eye, or through just the normal aging process. As a result, we're not prepared if something happens," says Simon.

Avery Hess instituted its Barrier-Free Living Environments Program about eight years ago. Simon, the parent of a person with quadriplegia and the staff accessibility expert, locates flexible housing for people, and helps people assess whether their existing homes can feasibly be made accessible. She has developed a continuing education course for realtors, which teaches them how to work with people with disabilities. The course also helps realtors determine whether a certain property is appropriate for someone with special needs.

### **"Invisible" Design Changes**

The institutional look of accessible housing is no longer the norm. More typical today are common-sense design approaches that most consumers don't actually notice.

Ron Wetzel, president of Amherst Homes in Cincinnati — which has been marketing upscale universally designed homes for the past 18 months — explains: "Most people don't realize how extensively the design has been modified until the changes are pointed out."

Simon agrees, "There has been a tremendous change in consciousness. Many of the accessible features that used to be available in the past were very institutional in appearance. People rejected them, even though they needed them, because they were not aesthetically pleasing."

Wetzel notes, "A big movement you're going to see in single-family housing is toward friendlier, more flexible designs. That's because the large, aging baby boomer market is going to demand designs that will allow them to stay in their homes longer."

According to Wetzel, design modifications in-

clude things such as raised vanities for people who have bending problems, the removal of the step at the shower and widened doorways. "We use pocket doors in some of the smaller bathroom areas. This enables someone on the outside of the bathroom to reach someone who has fallen on the inside. If you have a door that swings in, you'd have to tear the door down to get to someone inside," he says.

He notes that his company now places the circuit breaker panel in the garage, rather than in the basement, for easier access. Also, the step leading from the garage into the house has been replaced with a ramp.

And what design changes has Simon seen? "If I had my druthers, every home would be required to have a shower instead of a tub in at least one of the bathrooms," she says. "The shower would be wide enough to fit a wheelchair. I also think that automatic door and window openers are important features for older people. Anything that prevents people from having to climb, stretch or reach."

She adds, "I'd also like to see 36-inch-wide doors become a universal design standard. It would be more cost-effective, because you would only have to inventory one size of doors. People in half-a-million or million-dollar homes expect them. But people in \$125,000 houses get a 27-inch or a 24-inch door leading into a bathroom. And they are confronted with major costs if modifications need to be made."

### **Universal Design Criteria**

To help promote the concept of universal design with the public, Wetzel believes that the building community needs to develop some basic criteria that builders can easily implement.

To that end, the National Association of Home Builders (NAHB) has formed a committee that will explore the development of universal design criteria. According to Wetzel, the make up of the committee will include production and custom builders "because each segment has different concerns and different budgets with which to contend."

He notes that the goal is to create a universal design logo — similar to the the Good Housekeeping seal. Builders, providing that they follow the approved criteria, could then use the logo.

### **Challenges To Overcome**

Even with the development of universal design criteria, there are still some hurdles that need to be overcome.

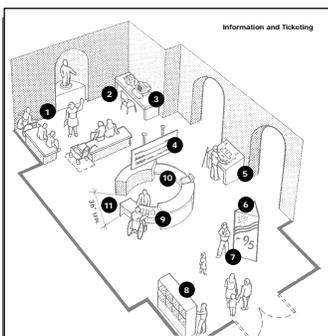
According to Simon, "Some of the builders who

**"Most people don't realize how extensively the design has been modified until the changes are pointed out."**

Ron Wetzel  
Amherst Homes

## Everyone's Welcome: The ADA and Museums

With help from a technical assistance grant provided by the US Department of Justice, Civil Rights Division, John P.S. Salmen, AIA has written a comprehensive guide to museum accessibility for the American Association of Museums. The 168-page book provides an explanation of the application of the Americans with Disabilities Act (ADA) for museums then presents a nine-step building block process that can be used by any museum, zoo or historic/cultural/



arts facility to implement a successful ADA program. The book provides extensive illustrations and examples of accessible and universally-designed exhibits and communication technologies, plus an exhaustive list of resources. The publication is available with an accompanying video tape from the American Association of Museums at 202.289.1818.

## Common ADA Errors and Omissions in New Construction and Alterations

This publication, prepared by the U.S. Department of Justice, Civil Rights Division, Disability Rights Section, delineates a variety of the Americans with Disabilities Act Standards for Accessible Design errors/omissions and the commonly resulting situation. These items include issues such as parking, stairs and transient lodging. To receive a copy or for more information contact the ADA Information Line at 800.514.0301 (voice) or 800.514.0383 (tty) or [www.usdoj.gov/crt/ada/adahom1.htm](http://www.usdoj.gov/crt/ada/adahom1.htm).

### Designing for the Disabled

Designing for the Disabled, a publication featured in the last issue of *Universal Design Newsletter*, Vol. 3, No. 6, can be purchased through Butterworth Heinemann at 781.904.2500.

## Reaching Out: A Creative Access Guide for Designing Exhibits & Cultural Programs for Persons Who Are Blind or Visually Impaired

This two part video, developed by Elga Joffee and Mary Ann Siller, is intended specifically for libraries, museums and other cultural facilities. It illustrates the principles and techniques of making information accessible to everyone, including people who are blind or visually impaired.

Part 1 of the video offers examples of accessible programming, and shows the interaction between visually impaired visitors and their environments in cultural facilities. In addition, it demonstrates how technology can be used to provide information access and enhance an organization's ability to reach the entire community. Part 2 shows how staff can be trained to help facilitate achieving fully accessible environments and programs.

Accompanying the video is an easy to follow print guide, offering specific information including: facility design, signage, lighting, multimedia displays, computer information access and personal training.

For more information, contact the American Foundation for the Blind Press at 800.232.3044; fax 212.502.7774.

## Home Planning for Your Latter Years; New Designs, Living Options, Smart Decisions, How to Finance It

This publication was authored by William K. Wasch, consultant and co-founder of the Independence Resource Center in Middletown, Conn.

Written from the first-hand experience of the author, this book covers the following topics of retirement: home planning expectations, options, resources, modifications, building new, and retirement communities. Included are various appendices on: product information, housing and community services information, consultants, and video and slide resources. Also included are references and suggested readings.

For more information, contact: William K. Wasch Associates at 150 Coleman Rd, Middletown, CT 06457 phone 860.346.2967 or Amazon.com. 

**Everyone's Welcome presents a nine-step building block process that can be used by any museum, zoo or historic/cultural/arts facility to implement a successful ADA program.**

**?** **Problem:** When renovating a standard (non-accessible) hotel guest room to be accessible, how do you provide the required clear floor space at the entry door when you have walls on both sides that restrict the maneuvering space?

**TIP:** The design team of Kennedy Paige Associates Inc. of Miami Beach, and Karim Masri, owner of the Astor Hotel in Miami Beach ran into this very problem in the recent renovation of that property. Their solution was radical, elegant and true to the facility's art deco design of the 1930s property. Instead of moving walls or doors, they left the entry door in its original position and installed an automatic door operator.



This system eliminated the need for maneuvering space at the door, and created an upscale amenity that impresses the most demanding of guests. There is no handle on the outside of the guestroom entry door. A swipe of the keycard both unlocks the door and activates the automatic opener, making it easy to roll your luggage or wheelchair directly into the room. To exit the room you can either push a button on the wall or operate the standard lever handle on the inside face of the door. ■



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## Housing, from page 6

start designing universal homes get too excited, and put every imaginable accessible product in the home. Suddenly, it is no longer affordable."

Another problem, Simon notes, is helping realtors understand and report the accessibility characteristics of their listings. "Often, realtors don't recognize the market value of these characteristics, and as a result, they aren't noting them in their listings."

But help is on the way. According to Simon, the metropolitan-wide multiple listing system now includes a place for accessibility characteristics. "For example, we can now list doorways, level entries, kitchen and bathroom modifications, elevators, ramps and the availability of accessible parking. A group of us worked very hard to get these changes enacted," she says.

Simon adds, "I think people are just beginning to realize that this is a huge, untapped market." ■

## Businesses Finding Help through DBTACs

Increasing numbers of companies are finding that people with disabilities represent a goldmine of topnotch workers as well as a market of consumers for their products and services.

Companies have received help in reaching this influential market through their local Disability and Business Technical Assistance Center (DBTAC). Funded by the US Department of Education's National Institute on Disability and Rehabilitation Research, this service provides Americans with Disabilities Act (ADA) information for businesses, individuals, schools and state and local governments.

Callers to the toll-free service are linked with experts who provide confidential information and referral, technical assistance, training and materials on all aspects of the ADA. DBTACs sponsor training programs and seminars on ADA issues, and provide literature and videos on a variety of ADA topics. DBTACs can provide information on creative ways to accommodate a recently disabled employee at minimal cost; how to differentiate between a service animal and a pet; and how to make services more attractive to people with disabilities.

To reach your regional DBTAC, call 800.949.4232 or link to the national website at [www.icdi.wvu.edu/tech/ada.htm](http://www.icdi.wvu.edu/tech/ada.htm).

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**PRODUCTS**

**WingIt Grab Bar Fasteners**

WingIt Grab Bar Fasteners from Pinnacle Innovations, are designed to enable grab bars to be retrofitted to walls and tub enclosures without the installation of blocking or reinforcement, eliminating the need to open existing walls. The WingIt is a revolutionary design for a blind fastener that is preassembled and ready to install. This patented fastener is designed to efficiently distribute grab bar forces to create a rigid attachment. WingIt exceeds the weight support criteria established by the American Standards Institute (ANSI) in document A117.1-1980 and in Title III of the Americans with Disabilities Act (ADA).



**ADA Compliant Emergency Phones**

The 1600 Series ADA Compliant Emergency Phone, from Viking Electronics Inc., is designed to provide hands-free emergency communication over the public switched telephone network. Available in four different chassis, this phone meets the Americans with Disabilities Act re-



quirements for elevator telephones and is also suitable for such applications as parking ramps, ATM machines, lobbies and entries, campus and roadside emergency stations, stadiums, and convention centers. The system can also be used with central monitoring station equipment.

Standard features include touch tone or pulse dialing, second number dialing in the event of no answer or a busy signal, grade two Braille labeling for individuals with visual disabilities. These weather-resistant phones transmit a unique location identification code, are remotely programmable, and can be programmed to auto answer incoming calls. The E-1600 can be supplied in special colors or with special graphics and models K-1600-EHF and E-1600-02 can be supplied with special graphics.

**System 900 Stand-alone Electronic Access Control**

The ILCO Unican Corporation's System 900 Stand-alone Electronic Access Control is a swipe-style lock designed to secure doors without the cost of direct wiring.

Available in mortise or cylindrical models, these battery-powered locks accept any magnetic stripe card. The software can accommodate any keycard and can be customized to satisfy customer re-



quirements. The lock system requires an IBM-compatible laptop or PC running MS-DOS 5.0 or higher, a swipe style low coercivity keycard encoder, a swipe-style infrared lock programming module, and the System 900 software. 

Pinnacle Innovations  
8 Martin Avenue  
South River, NJ 08882  
Phone: 732.257.6900  
Fax: 732.257.6926

Viking Electronics Inc.  
1531 Industrial Street, P.O.  
Box 448  
Hudson WI 54016  
Phone: 715.386.8861

ILCO Unican Corp.  
Electronic Access Control  
Division  
P.O. Box 8108  
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Fax: 800.490.3785

See complete coverage of **Designing for the 21st Century: An International Conference on Universal Design of Information, Products and Environments** in the October issue of **Universal Design Newsletter**



The New Products column was provided by the ABLEDATA project, a computerized database of information on assistive equipment which is funded by the National Institute on Disability and Rehabilitation Research and is administered by Macro International, Inc., Silver Spring, MD.

# Universal Design in Telecommunications

By Frank G. Bowe, Ph.D.

We are now beginning to see universal design in telecommunications. A good example is a software program that contains names, phone numbers, fax numbers and email addresses.

Such contact-management programs allow users to "dial" numbers without physically having to touch a telephone receiver. They are very helpful for people who have physical disabilities, of course, but they are also simply convenient for all

Universal design is showing up in a variety of computer software programs. Dragon Systems, of Newton, Mass., has a new software program on the market called Naturally Speaking. It allows users to produce computer text simply by talking. The program features "continuous speech recognition," which means that it can handle conversational speech and does not require the user to pause between words. IBM has a similar program, known as ViaVoice. This program works with application software — letting users issue commands such as "open file" just by talking. These offerings are remarkably affordable.

Naturally Speaking, for example, retails for just \$150 — and it can be picked up right off the shelves of most computer stores. Dragon Systems' earlier offering, called Dragon Dictate, now priced between \$400 and \$1,700, requires users to speak...like...this.... When the software was first introduced a few years ago, it cost \$10,000+ in addition to the price of the PC. Today's improved version is now just \$150. The product doesn't only help people who have physical disabilities but also

people who have or fear repetitive strain injury and people who just prefer to avoid typing. That, too, is universal design at work.

For the 60 percent of American homes that still lack PCs there are some non-PC-based universally designed communications devices.

Bell Atlantic offers its residential phone customers a service called VoiceDialing which lets people dial phone numbers by speaking the name of the person being called into the phone receiver's mouthpiece. The software in the central phone office recognizes the speech, matches the spoken name with a phone number, and dials. The process takes place, not in the

customer's phone, but rather in the company's central switching office. The service costs about \$4 a month and can be a real boon for someone who is mentally disabled, because he or she can easily place calls to parents, counselors, friends, and emergency numbers simply by speaking a word. It also helps people whose physical disabilities make dialing numbers difficult or impossible. But -- and this again is the beauty of universal design -- it is just as convenient for people with no disabilities, such as a person using a cellular phone while driving, or a busy parent calling a spouse while washing the dishes or holding a child.

A new federal law is accelerating the development of these kinds of universally designed products and services in the area of telecommunications. Section 255 of the Telecommunications Act of 1996 (PL 104-104) requires that new telecommunications products and services be made accessible to and useable by people with disabilities, if it is "readily achievable" to do so.

The U.S. Architectural and Transportation Barriers Compliance Board recently developed "guidelines" to interpret the language of Section 255 into steps that designers and engineers can follow.

It will be interesting to see how makers of telecommunications products and services respond to the Section 255 mandate. Hopefully, they will think in terms of universal design and ask themselves: "How can we make this product or service useable by a wide range of diverse users?" That is the question Bell Atlantic is asking about the services it offers. The company has adopted a corporate-wide policy of universal design.

If Section 255 is implemented the way Congress intended, telecommunications-product vendors such as Ericsson, Motorola, Lucent Technologies, Northern Telecom, and others will start making products that are useable by a wide audience — including people with disabilities.

The next few years promise to be quite interesting for anyone who follows telecommunications. Let us join in hoping that Section 255 will, in time, lead to creative solutions much as the Americans with Disabilities Act has given us innovations in the design of buildings and transportation vehicles. ■

*Frank G. Bowe, Ph.D. is a professor of special education at Hofstra University in Long Island, New York.*

**The product doesn't only help people who have physical disabilities but also people who have or fear repetitive strain injury and people who just prefer to avoid**



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software in the central phone office recognizes the speech, matches the spoken name with a phone number, and dials. The process takes place, not in the





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Events to be placed in the UDN Calendar must be submitted to the editor two months before the publication date.

**Sept 9-11: Principles of Access** a training course sponsored by the National Center on Accessibility will be held in Denver. The course will introduce park and recreation professionals to the fundamentals of accessibility. For more information checkout the NCA website at [www.Indiana.edu/~nca](http://www.Indiana.edu/~nca) or call 800.424.1877 (v/tty).

**Sept. 10: The US Architectural & Transportation Barriers Compliance Board** in Washington, DC will hold a one-day conference recognizing the 30th anniversary of the Architectural Barriers Act. The conference will review the history of the ABA, explaining the future of federal standards. For more information contact the Access Board at 202.272.5434 (v) or 202.272.5449 (tty).

**Oct. 26-28: Access to Outdoor Developed Areas**, a training course sponsored by the National Center on Accessibility will be held in Martinsville, Indiana. The course will discuss the most current information on the evolving accessibility guidelines as they relate to outdoor developed areas for people with disabilities. For more information checkout the NCA website at [www.Indiana.edu/~nca](http://www.Indiana.edu/~nca) or call 800.424.1877 (v/tty).

**Nov. 16-20: International Workshop on Universal Design** to be held in Yokohama, Japan and sponsored by the Building Research institute. Discussions will

cover product/dwelling/building design for transportation and the environment. Socio-political discussions will cover topics such as cultural dependence/independence of universal design. For more information fax +81.298.64.2989 or send e-mail to [skose@kenken.go.jp](mailto:skose@kenken.go.jp).

**Nov. 17 - March 14: Unlimited By Design at the Cooper-Hewitt Museum, New York**, will be the first major exhibition of products, services and environments designed to meet the needs of all people throughout their lifespans. This Cooper Hewitt museum is part of the Smithsonian Institute.

**Dec. 7-11: Universal Design**, a two-track training course for designers and interpretive specialists is being sponsored by the National Center on Accessibility and will be held in Houston. General sessions will explore the principles of Universal Design and separate architectural and interpretive tracks will provide hands on experience and in-depth discussions of pertinent topics for each group. For more information, checkout the NCA website at [www.Indiana.edu/~nca](http://www.Indiana.edu/~nca) or call 800.424.1877 (v/tty).

**July 12-16, 1999: Vision '99 International Conference on Low Vision** will be held in New York City and is being sponsored by the Lighthouse Inc. The call for papers is due Nov 30, 1998. For more information contact the Lighthouse Inc. at 212.821.9482 (v) or via e-mail at [vision99@lighthouse.org](mailto:vision99@lighthouse.org).

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Address Correction Requested

