The Americans with Disabilities Act is landmark civil rights legislation for all citizens with disabilities. The ADA prohibits discrimination in almost every aspect of society and will be particularly beneficial for some 30 million or more deaf and partially deaf people in their efforts to gain equal access to society. The ADA and its regulations provide legal requirements to remove, among other things, communication barriers for the hearing impaired.

High reverberation and resulting background noise levels can be as much of a barrier to communications for the hearing impaired as a set of steps might be to a person in a wheelchair. Addressing the problems of communication barriers will have a profound impact on the acoustical environment in many buildings where communications are a function of those who are living, working, playing or learning in the space.

While the ADA and other similar legislative acts make provisions for assistive hearing devices to accommodate hearing impaired persons, very little of a specific nature has been mentioned about the acoustical environment as an important aid to better communications. Hearing impaired persons therefore have to rely on the broader aspects of the legislative language in order to assert their rights for those aids and services that will better accommodate their needs.

The impact of well-designed acoustical environments on the communication processes is well known and not a matter of speculation but rather is governed by laws of physics and supported by scientific evidence. Effective acoustical environments are a gray area of building design today; often taken for granted or overlooked, the acoustical element of building interiors is greatly misunderstood.

Better Acoustics for All

Unlike other environmental considerations in building interiors, such as lighting, heating, cooling and ventilation, the acoustical environment cannot be regulated at the flick of a switch; rather, it must be carefully considered during the initial design process for new buildings or the remodelling process for existing buildings. Inasmuch as the acoustical environment can have a profound impact on the communicative processes of millions of people with hearing impairments, the moment is at hand when acoustics will be the focus of much more attention by millions of
people of all ages in all walks of life.

For too long people have tolerated noise without really being conscious that in doing so the quality of life is seriously diminished. With the passage of the ADA, many of the disabled are becoming more aware of their rights for equal access to programs, services and benefits guaranteed and defined by the ADA and other legislative acts. The more than 30 million people suffering from varying degrees and types of hearing impairments are becoming more vocal in their demands for more effective communications.

Despite the marvels of many high-tech electronics in this modern age, assistive hearing devices, sound systems and personal hearing aids alone are not sufficient to guarantee access to effective communications in all situations. On the contrary, not all assistive hearing devices work well under all conditions, and personal hearing aids frequently only serve to further amplify interfering and annoying noise in a poor acoustical environment. A well-designed acoustical environment in conjunction with hearing-assistive devices may well be a much more effective solution than either one alone.

Correcting noisy environments in existing spaces, in spaces undergoing remodelling or in buildings under design, is neither an unreasonable accommodation nor a financial hardship in many cases. Adding effective acoustical treatments does not generally require structural changes and, with the wide range of materials and design solutions available, need not represent undue financial hardship for the building owner.

Noise Control

The benefits of controlling noise by acoustical means are well known and documented. Quieter environments are known to improve productivity, reduce noise-induced hearing loss, improve communications, reduce stress and anger and much more. The benefits of good acoustical environments that reduce or control noise are overwhelming, but not all noise need be of a high level to constitute an annoyance or to be an interference in the communications process. Thus, the acoustics in a wide variety of spaces should be the focus of far greater attention than currently is the case.

Designers, architects, building owners and operators would do well to focus on the acoustical environ-

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ment now. The winds of change are blowing softly but will pick up with increasing speed as people with hearing impairments become more knowledgeable and make known their demands for equal access under the law. Whether by voluntary means or by legal due process, changes are coming.

Local Recourse for the Disabled

There is evidence to suggest that acoustics as an aid to communications access is the focus of attention of several organizations associated with deaf and hearing persons. While the development of guidelines and standards will take time to implement, legal recourse by those with disabilities is already a part of the legislation. Indeed, a person with a disability does not have to wait until discrimination actually occurs to seek remedial action. Anyone who has reasonable grounds for believing that he or she is about to be subject to discrimination may institute civil action for preventive relief, including an application for permanent or temporary injunction or a restraining order. Therefore, it is not too soon to start focusing on priorities that accommodate the disabled.

The control of noise by acoustical means as well as developing acoustical environments that enhance speech intelligibility and word discrimination can, in certain circumstances, be rather complex; on the other hand, the whole idea of creating good acoustics is fundamentally very simple but still may require some expert assistance. Perhaps more important than what we should use with the how and where to use it, more effective acoustical solutions should address the many reasons why we should be more accommodating to the needs of the hearing impaired and, more importantly, what the consequences will be if we do not. The latter may prove to be more costly in the long term.

In short, we can become sensitive to the needs of persons with hearing impairments now on a voluntary basis, or we can wait until we are required to do so under penalty of law. For the hearing impaired and, for that matter, many hearing persons as well, less noise means better hearing.

About the Author

Michael Nixon is director of Research and Development at Sound Concepts Canada, Inc., in Plymouth, Minn., where he has developed several acoustical material products that have received U.S. patents. In addition, Sound Concepts has developed several new techniques for the manufacture of innovative acoustical products to provide unique and cost-effective solutions for compliance with the ADA and other related legislation.