

In a looped America, hearing aids would be twice as valuable

By David G. Myers



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“Imagine a future where hearing aids serve not only as sophisticated microphone amplifiers, but also as customized, in-the-ear loudspeakers for the binaural broadcast of television, a PA system, and telephone sound. In the United Kingdom, and now in part of Michigan, this imagined future is fast becoming reality.

“Might the combined efforts of hearing professionals, the hearing industry, and people with hearing loss enable hearing aid-compatible assistive listening to spread across this nation—to the betterment of hard-of-hearing consumers and those who serve them?”

This vision is that of David G. Myers, PhD, a social psychologist and author whose books include *A Quiet World: Living with Hearing Loss*. In this Cover Story and in separate companion articles by audiologists Mark Ross, PhD, and William Diles, MA—*The Hearing Journal* offers ideas and practical advice on how hearing healthcare

providers can help turn this vision into reality in their communities and, in doing so, help their patients and their practices.

When I visit Britain, I am struck by how supportive this country is becoming for those of us with hearing loss. The National Health Service provides telecoil-equipped hearing aids, and venues everywhere offer loop systems that harness them.

My first experience of a user-friendly loop system came in 1999 when worshipping in an 800-year-old abbey on Scotland’s Isle of Iona. When the words from the PA system bounced off the high stone walls, they were mostly unintelligible to my ears. Noticing a hearing assistance sign with a “T,” my wife suggested I activate the telecoils that came with my new hearing aids.

When I did, the transformation was dramatic. Suddenly the babble of people awaiting the start of the service was replaced by the pure harmonies of the musicians—whom I had not even heard—playing in front of microphones across the abbey. It was like listening to a CD over a headset.

When the liturgy began, the leader’s words seemed to travel directly from her microphone to the center of my head. Her voice could not have been more distinct.

In the years since, I have seen hearing aid-compatible assistive listening spreading throughout the United Kingdom. When the 50th anniversary of Queen Elizabeth’s coronation was celebrated at Westminster Abbey, the first announcement was, “The whole of the church is served by a hearing loop. Users should turn their hearing aid to the setting marked T.”

In Britain, loop systems can now be found at more and more designated ticket windows, bank teller stations, and tourist information counters. One UK manufacturer recently told me his company had sold 19,000 portable loop systems in the past 18 months. And they are coming, by government mandate, to all London Underground ticket windows and the back seats of all London taxis. Last fall, just before leaving Britain, I turned on my telecoils while in a London taxi, with the driver separated by a glass wall. No problem; his voice broadcast through my hearing aids!

A year ago, when I sat with hundreds of others in Eng-

land's Gatwick Airport's huge departure lounge, I was unable to hear announcements about my delayed flight. But when I activated my telecoils, the announcements now broadcast with striking clarity from my own hearing aids. As I sat there enjoying wireless communication on my laptop thanks to wi-fi, and wireless communication through my hearing aids thanks to the magnetic loop system, I pondered again how wonderful the spread of hearing aid-compatible assistive listening would be for hard-of-hearing Americans and the professionals who serve us.

IN THE U.S., INCOMPATIBILITY IS THE RULE

Alas, in this country, assistive listening systems mostly use technologies that require us hearing aid wearers to locate, check out, and wear receivers with conspicuous headsets (which loop systems can also provide for those without telecoil-equipped hearing aids). People with moderate hearing loss usually decide to avoid the hassle and embarrassment, so the units mostly sit in closets unused. True, we *should* surmount these barriers and make use of these receivers and headsets, but we mostly don't.

As the Rochester, NY, chapter of the Hearing Loss Association of America (formerly SHHH) notes, "There is good evidence that many people do not extend themselves to identify their need, collect personal receivers ahead of time, or wear rather noticeable headsets. Such receivers are always required for FM and infrared systems."

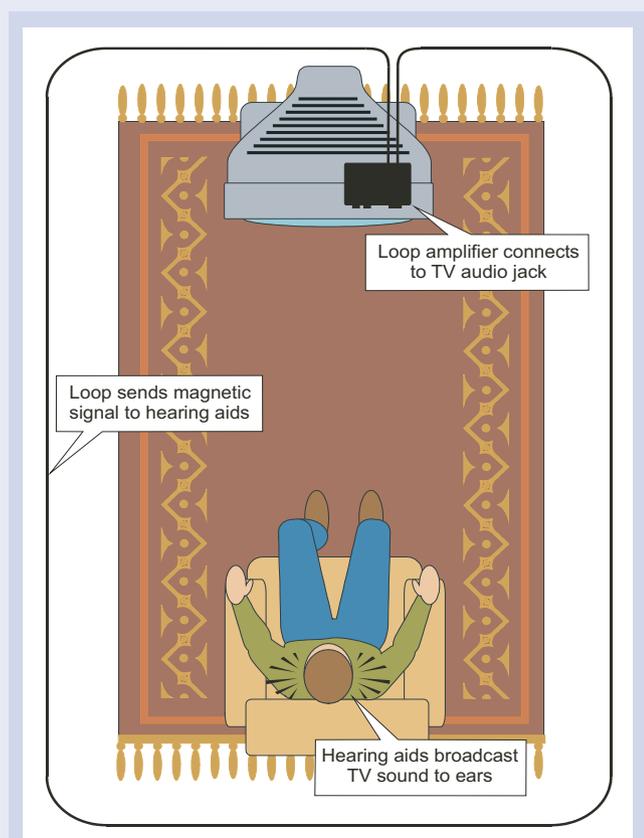


Figure 1. A home or large-area loop system uses magnetic energy to transmit a signal (such as from a TV or a PA system) to telecoil-equipped hearing aids. In contrast to assistive listening systems that are incompatible with hearing aids, loop systems take advantage of and increase the functionality of hearing aids.

I have observed that theater personnel, when asked for the assistive listening units, sometimes don't even know their facility has them. One manager of a multi-screen movie theater told me the assistive listening units were checked out about once a month per theater. A past president of the Michigan Hearing Loss Association of America (HLAA) successfully persuaded her local civic auditorium to install an assistive listening system that required headsets. A year later when she attended an event there, she was the first person to use it.

Having benefited from Britain's more user-friendly assistive listening, I wondered, wouldn't hearing aid-compatible assistive listening benefit Americans as well? If loop systems are, as Mark Ross has written, "deserving of a renaissance in this modern age," how might we inspire such a renaissance?

For starters, I installed a simple loop system in my TV room at home (typical self-installation cost: \$175 to \$300). The result was wonderful. If you were to watch TV with me, you would hear the TV speaker sound at whatever level you wished; I would hear the TV broadcast from my own hearing aids at my choice of volume. Moreover, by setting one hearing aid at M+T position, I could also hear the telephone or conversation in the room. I easily understand why Bill Diles (see his article on page 22), who has installed 500 home loop systems, has so many happy clients—clients who are happy with their home loop system and who are also happier than other people *with their hearing aids*.

Given that home loop systems can be easily installed—in the simplest instances with pads that slip under chair or couch cushions—I foresee hearing professionals offering such systems (or directing people to the vendors listed at www.hearingloop.org) as a routine part of their client service. I also foresee AuD programs including a lab session where future audiologists can experience loop systems (telecoil-equipped earbuds are available) and become comfortable with simple home installations, which they could train an assistant to do.

I've also looped my office, which lets me hear telephone conversation broadcast through two ears, with greatly increased clarity. (Radio Shack sells a cord, with an on/off switch, for recording phone conversation. This can, instead, run between a phone and a home loop amplifier.)

I appreciate my assistive desk phone, with its controls for volume and frequency, but nothing beats binaural listening. Those who dispense hearing aids know this; that's why they fit most of their clients with two aids. And that's why they should also enable clients to use both their aids when talking on the telephone.

LOOPING A DEMONSTRATION COMMUNITY

Having experienced hearing aid-compatible assistive listening at home and elsewhere, I next wondered, why not experiment with this on a broader scale by looping a demonstration American community? And what better place than my own town—Holland, Michigan?

The response has been gratifying. Today, Holland (with adjacent Zeeland) is one of America's friendliest communities for people with hearing loss. With moral support from our wonderful hearing professionals and with financial support from corporations and our community foundation, most of our major religious congregations, most of our high school and college auditoriums, and many other public and business facilities—more

than 80 venues in all—have installed loop systems that broadcast sound via people's hearing aids.

In my own church, only one person used the old assistive listening system, which required headsets. Within a year, 10 people were using our professionally installed \$2000 loop system, with the subtle touch of the T-switch on their hearing aids. One woman who refused to use the old headsets said, "It is actually fun to go to church, and it hasn't been that way for a long time." A member of another church, after switching on her telecoil and hearing sound "like I hadn't heard in years," burst into tears of joy.

One pastor was initially disappointed that his church's new loop system had no users. But, within 8 months, three long-absent hard-of-hearing parishioners had returned and three newcomers had sought out his newly accessible church to join.

Moreover, many west Michiganders who purchase hearing aids in the future—as more are now inspired to do—know that they should include a telecoil receiver. Last year our community's largest audiology practice included telecoils with every hearing aid sale except one.

By equipping their clients with telecoils, our local hearing professionals have been a key part of the success of our community initiative. They also have shared in the pleasure. For example, Jerry Owens, AuD, owner of Lakeshore Hearing Centers, observed, "Never in my audiology career has something so simple helped so many people at so little cost." James Welsh, MA, of the Holland Hearing Center, said, "Nearly everyone I've seen who uses the loop system has had favorable results." And Karen Van Doorne, AuD, noted that telecoils and loop systems "transform hearing aids into 'personal communication systems.'"

LOOPING AMERICA

But why stop here? Why not introduce user-friendly, hearing aid-compatible assistive listening to the nation? With that grand vision in mind, I created an informational web site (hearingloop.org), have authored articles for various magazines and trade journals, and have spoken at or attended meetings with hearing industry and hearing consumer leaders. Here are some results of these and other efforts.

First, the initiative has spread. In Grand Rapids, MI, many congregations, as well as government, educational, and convention center facilities, are introducing the technology. HLAA's Michigan chapter has recommended that "churches, auditoriums, theaters, courts, airports, and other venues where sound is broadcast install assistive listening systems that broadcast sound directly through hearing aids." Plans are in the works for the looping of Michigan's state house and senate chambers.

In California, the state HLAA chapter has similarly urged that "in all new and extensively remodeled buildings, wherever there is a public address system, a loop should be permanently installed... When there is a loop, all a hard-of-hearing person has to do to be able to hear, is click on the T-switches on their hearing aids."

Second, noteworthy new installations are appearing, including, in December 2004, the main chamber of the U.S. House of Representatives. When the president delivers the State of the Union Address, attendees need only activate their telecoils to enjoy customized sound (suited to their own hearing needs) broadcast from inside their ears.

Third, both hearing aid-compatible phones and telecoils are



Figure 2. Drive-through customers at Holland, Michigan's Paragon Bank can hear the inside teller broadcast either through a loudspeaker or, by activating telecoils, through their hearing aids.

on the increase. As mandated by the Hearing Aid Compatibility Act of 1988, most landline phones now broadcast improved sound to telecoil-equipped aids. And the Federal Communications Commission, at the urging of consumer groups and the Hearing Industries Association, mandated that hearing aid-compatible cell phones be made available beginning this year.

As a result, dispensing professionals are providing more and more of their patients with telecoils. Recent surveys of manufacturers by Ohio State University and the Hearing Industries Association and of dispensers by *The Hearing Journal* have found that between 45% and 54% of hearing aids now come with telecoils.

However, many hearing aid wearers are still unaware that they have telecoils or of how a telecoil can help them. (For more on the benefits of t-coils and how to optimize them, see Mark Ross's article in this issue.)

The U.S. Access Board is mandating that 25% of all assistive listening devices in new facilities be hearing aid-compatible neck loops (a requirement that can be satisfied by installed loop systems, the board's technical assistance coordinator states). Hearing aid-compatible phones, hearing aid-compatible assistive listening devices, and telecoil inclusion are all mutually reinforcing trends. The momentum builds!

A VISION FOR THE FUTURE

While progress is being made, we need to do much more. Terry Portis, EdD, executive director of the Hearing Loss Association of America, contends, "Our country will never be accessible for people who are hard of hearing unless we make hearing aid-compatible assistive listening a reality."

His vision—and my own—is less for loop systems *per se* than for a "reimaging" of hearing aids. Perhaps alternative technologies will allow the wireless broadcast of sound to low-power, inexpensive, miniaturized receivers that can fit into in-the-ear hearing aids—thus making user-friendly assistive listening available and affordable—to most hearing aid wearers. "Ultra-wide-band" technology has this potential.

Although today's personal FM systems will likely find increasing utility in conversational settings, their much greater cost and their requirement of BTE aids suggest a more limited applicability to hearing aid-compatible assistive listening. But, hats off

to any technology developer who can envision practical new ways to transmit information wirelessly to hearing aids.

Therefore, my advocacy, and that of groups of hard-of-hearing people in places from Williamsburg, VA, to Tucson, AZ, is fundamentally not for any particular technology but for a concept: *hearing aid-compatible assistive listening*. This concept, which today's loop systems can make a reality, raises the possibility of doubling the functionality of hearing technology and, by so doing, doubling the use of hearing aids and diminishing the stigma of

hearing loss and hearing aids.

So, why are we still so far from making this a national reality? Thanks to inertia, the technology we know is often what we choose. The challenge, then, is to help the existing assistive technology companies and audio engineers understand the great potential of hearing aid-compatible assistive listening.

Progress toward this goal has been restrained because, until recently, only about a third of hearing aids came with telecoils. But, as our experience in Holland and Zeeland demonstrates, "If

Get your patients "in the loop"

By William Diles

People with hearing loss often struggle to catch television's fast-paced dialogue, even if they wear well-fitted, advanced digital hearing aids. A patient of mine—we'll call him John Smith—has been fitted with the best hearing aids available. On a follow-up visit, John told me he is hearing his wife much better, doing much better in noisy restaurants, and enjoying live music again. But, he said, he still relies on captions when watching television.

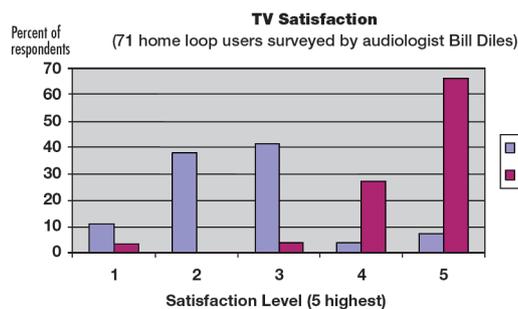


Figure 1. Results when hearing aid wearers in survey were asked, "How satisfied are you with watching TV with your hearing aids alone?" and "How satisfied are you with watching TV when using your home loop system?"

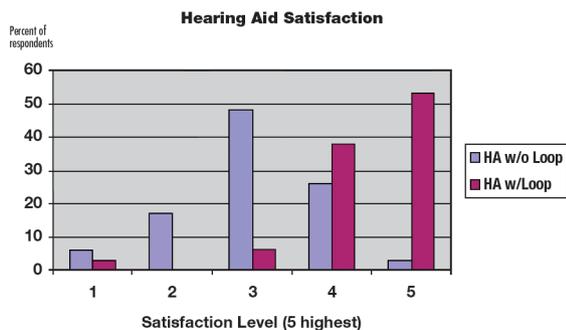


Figure 2. Results when hearing aid wearers in survey were asked, "In general, how satisfied were you with your hearing aids before the installation of your home loop system?" and "In general, how satisfied are you with your hearing aids since your home loop system was installed?"

I have asked myself, "What am I missing here?" Could it be that in our quest to help people overcome their hearing difficulties, we have overlooked one of the most important activities in their daily lives, TV viewing?

I have found a very effective solution to this problem: the inductive teleloop. Over the past 3 years, our practice has been steadily looping more and more of our patients' homes.

In the beginning, we sold the loop as an added feature. But then we conducted a survey of patients with and without a home loop (see Figure 1) and found greatly increased satisfaction with TV watching among those with the loop. Moreover, over 90% of our patients also reported high satisfaction with their hearing aids when combined with an installed teleloop (see Figure 2). After seeing those data, and talking with many of our delighted patients, we decided to include the loop with every fitting.

If you think about it, the loop can be looked upon as simply another option available with a hearing aid. So, why not treat it as such and give our patients a feature they will use so often? Moreover, by equipping their hearing aids with a mic-plus-telecoil (M/T) option, we can enable patients to enjoy hearing aid-compatible TV listening while still being able to hear conversation in the room or the ring of a telephone or doorbell.

THREE REASONS TO LOOP

We have found that three things occur when we "loop" our patients' homes:

- (1) The patients are more satisfied with their current hearing aids.
- (2) They are more loyal to our office, and thus more likely to return for their next hearing aids.
- (3) They often refer friends to our practice.

Having installed loops in 500 homes in our county, we know there are 500 locations where people talk about our office and what we have done to help them hear better and improve their quality of life.

INSTALLATION IS EASIER THAN YOU MAY THINK

The physical installation of the loop system is undoubtedly one of the main factors deterring hearing professionals from recommending these products to their patients. However, installing a

we build it, they will come.” If we mandate telephones and install assistive listening that work with telecoils, t-coils will become increasingly standard in hearing aids. And that will further accelerate people’s wish for hearing aid-compatible assistive listening.

The hearing industry constantly asks, how can we increase hearing aid usage? How do we reach the point where people with hearing loss use hearing aids almost as comfortably and routinely as those with vision loss use glasses or contact lenses?

History and psychology teach us that the way to change the

world is less by admonishing people than by altering their environments. “Drive carefully” campaigns may help a little, but divided highways and mandatory seat belts save many more lives.

Admonishing people to purchase and use hearing aids and assistive listening devices helps some. But doubling the functionality of hearing aids by changing the environment—by making hearing aid-compatible assistive listening available everywhere—will increase far more dramatically the use of, and satisfaction with, hearing aids.



Figure 3. Tools to use in installing a loop system. (This and Figures 4-6 are from the *Field Quick Start Installation Guide*, published by Phonic Ear.)

room loop in a house or apartment requires no special considerations and can be done without a professional. So, there’s no need to hire an expensive electrician or carpenter. I hired my 17-year-old son to do these installations, which require scarcely more sophistication than hooking up a DVD player.

With just a few handyman skills, you can run the wire around the edge of the room and over the doorways or under the carpet (see Figures 3-6) To snake wire under carpet, we use a fishtape, which is a \$15 item found at any hardware store. Securing the wires to the basement below or the attic above with a staple gun so that they encircle the TV room is also an effective installation technique.

The loop system we use is the Field from Phonic Ear. Each unit comes with an easy-to-follow installation guide complete with pictures, including those in this article.

Often patients do the installation themselves, or the hearing care professional can arrange for installation. Installers are easy to find and the job usually takes less than an hour. Once it is in place, the loop system is virtually maintenance free.

When the loop is not included in a new hearing aid fitting, we typically charge \$200 for the hardware and \$100 if we provide installation, which yields our office a small profit. But, more importantly, it leads to noticeably happier patients whose hearing aids now serve them not only as microphone amplifiers but also as TV loudspeakers.

AN IN-OFFICE SYSTEM

Our office is now equipped with four separate loops. We give demonstrations to patients, using cable television during regular fittings or follow-up appointments or even while the patient waits in the reception area.

The loop system in the reception area is connected to the “audio out” port of the TV, and there is no acoustic signal sent to the room. We have a sign instructing people to switch their hearing aids to the “T” position to hear the TV. People are amazed by the clarity and audibility, and it generates many questions and much interest. Our front office staff is well prepared to explain the technology.

SUMMARY

Loop systems are not just for public places anymore. Home by home, looping is making a difference in the lives of our hearing aid users. Using a loop system eliminates the problems of background noise, distance, and reverberation. The way we see it, a loop in the home gives our patients one more reason to love their hearing aids!

William Diles, MA, has been in private practice in Santa Rosa, CA, along with his wife, Christine Diles, AuD, since 1981. He is a third-generation hearing care professional whose grandfather was an executive with a major U.S. hearing aid manufacturer and whose father was a well-known hearing aid dispenser. Readers may contact him at Santa Rosa Audiology, 52 Mission Circle Suite 203, Santa Rosa, CA 95409; at 707/538-1000; or at BDiles@good-hearing.com.



Figure 4. Pulling the loop wire up after it has been run under the carpet.



Figure 5. Stretching and tucking the loop wire along the baseboard.



Figure 6. Pulling the loop wire taut around a doorway where there is no carpet.