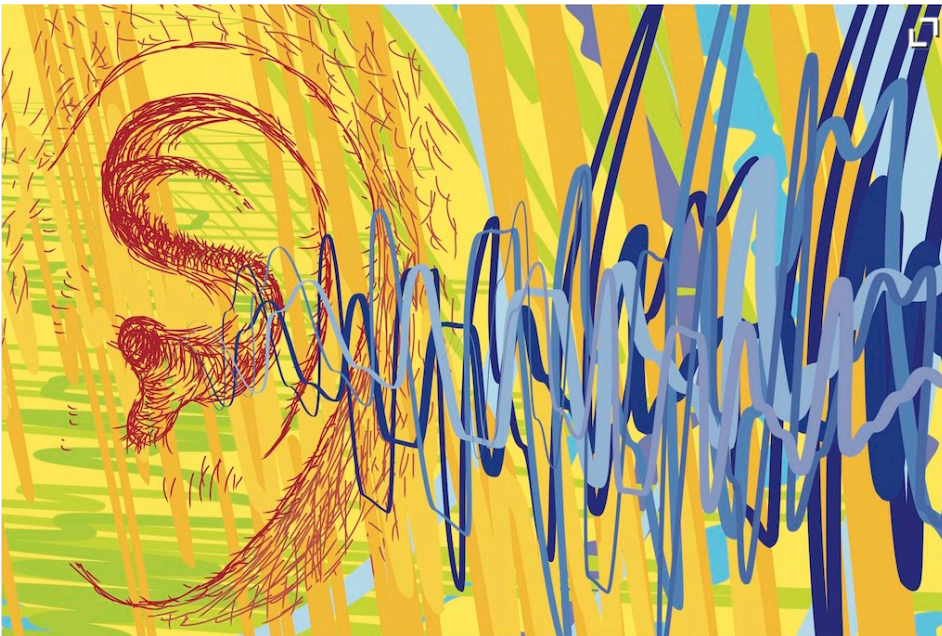


August 29, 2019 12:00 AM

Designing Assistive Listening for Worship

by James Careless, Church.Design



The aging of the Baby Boomers means that assistive listening devices (ALDs) are playing an increasingly important role in houses of worship. These devices ensure that people with hearing loss are fully included in all aspects of the service.

For church designers and integrators, the fact of declining hearing ability means that ALDs must be considered

throughout the design, procurement and installation processes of a church new build or renovation. The question is, which ALD technologies and considerations should be given the most attention in the church market? To find out, Church.Design spoke to a number of experts for the lowdown.

Loops remain technology of choice

There are a number of ways to deliver assisted listening to people with hearing loss, including FM, Infrared, and now WiFi delivered wireless audio. But if those people are wearing hearing aids or have cochlear implants (CIs), then the time-proven combination of hearing loops and hearing aids/CIs with telecoils (installed to meet the IEC 60118-4 standard) remains the technology of choice.

The magnetic wireless signal sent from the loop directly interacts with the telecoil in people's hearing devices--without any need for a personal receiver and additional headsets/earpieces.

The reason is simple: Hearing loops (loops) ensure that anyone in the room with a telecoil-enabled hearing aid/CI can hear what is being captured by the room's microphones, when that signal is fed into a transmitter connected to a wire loop encircling the room. The magnetic wireless signal sent from the loop directly interacts with the telecoil in people's hearing devices--without any need for a personal receiver and additional headsets/earpieces.

"If a person has a hearing aid with a telecoil, they can just walk in the room and pick up the signal from the loop," notes Brian Taylor, vice president of design and installation at [Stage](#)

[Sound](#) in Roanoke, Va. "A lot of people like the convenience and anonymity of not having to ask for an external listening device--plus avoiding any germs and other sanitary issues potentially

associated with shared ALDs.”

Add the fact that loop technology is compliant with the Americans with Disabilities Act (ADA), and there still is no substitute for this assistive listening technology for serving people with hearing loss.

Designers take note, though. To do the job properly, an ALD system “must be directly hearing aid-compatible, meaning the sound pick up must go directly into the hearing aid or CI,” reports audiologist Juliëtte P.M. Sterkens, who advises the [Hearing Loss Association of America](#) (HLAA) on hearing loop technology. Using ALD alternatives such as FM/infrared/WiFi wireless transmission can introduce signal latency delays, “wreaking havoc with the already precarious speech understanding difficulties of those who live with hearing loss,” she says.

For these reasons, loops are enjoying a resurgence in the marketplace against other assistive listening options, simply because the loop technology is simple, universal and proven.

“There's been a real increase in the awareness of the effectiveness of hearing loops in the last 10 or 12 years,” confirms Bill Droogendyk, president and owner of [Better Hearing Solutions](#) in Hamilton, Canada. “As a result, churches are looking to hearing loops as the technology of choice for their parishioners. Although FM and Infrared systems meet ADA requirements (if neckloops are included), these technologies require everyone to acquire a listening device at the venue that only works at that venue. The telecoil in the hearing device works with any hearing loop in any venue, assuming that the telecoil is properly set up and the hearing aid is telecoil-compatible.”

WiFi is big, and getting bigger

For those without hearing aids or cochlear implants, FM and

Infrared ALDs can be useful options.

... the pairing of smartphones/tablets and wireless apps is becoming a popular ALD alternative for houses of worship.

That's not all: These days, the pairing of smartphones/tablets and wireless apps is becoming a popular ALD alternative for houses of worship. The reason? "Smartphone apps that allow people to hear a stream of local audio are becoming extremely popular since church members can listen through their own personal devices," says Tim DePumpo. DePumpo is CEO of [AudioFetch](#), whose appliances are designed to capture audio from

multiple sources and rebroadcast it locally over WiFi.



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Listen Technologies sells computer-based appliances that can capture church audio and rebroadcast it locally to smartphones and tablets.

"Listeners love the convenience of using their own device while also avoiding any potential stigma of searching out a listening device," DePumpo explains. "An additional benefit is that most major hearing aid manufacturers (Oticon, Phonak, GN ReSound

and Widex) now support Bluetooth pairing of hearing aids and phones, which further allows listeners to tap into the sermon directly without requiring an additional headset or other custom assistive listening device to augment hearing aid solutions.”

“Listeners love the convenience of using their own device while also avoiding any potential stigma of searching out a listening device.” —Tim DePumpo, CEO, AudioFetch

“Bring your own device (BYOD) is a term that is becoming more and more common for a variety of uses – including assistive listening in houses of worship,” agrees Kim Spencer, marketing director with Bluffdale, Utah-based ALD equipment supplier [Listen Technologies](#). So, like AudioFetch, Listen Technologies sells computer-based appliances that can capture church audio and rebroadcast it locally to smartphones and tablets.

“Listen Everywhere is a streaming WiFi product that allows guests the ability to download a free app and listen on a device they are already familiar with,” Spencer says. “Listen

Everywhere is easy to add to a venue’s existing wireless network and can accommodate thousands of users and over 50 channels. In addition, the Listen Everywhere app can be customized to further enhance the user experience so that when guests open the app, they will see a unique welcome message, announcements, agendas or special messages.”

“... the Listen Everywhere app can be customized to

FCC auction concerns

In recent years, the Federal Communications Commission (FCC) has been reorganizing the broadcast band, so that swathes of it could be auctioned to 4G/LTE wireless carriers

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Technologies,
Bluffdale, UT

to raise billions of dollars for the federal treasury. Unfortunately, this reorganization has pushed some spectrum users into smaller, more crowded sections of bandwidth--leading to poorer coverage and higher levels of interference from competing users.

The good news: Loop systems are entirely unaffected by the FCC's bandwidth changes.

Meanwhile, Taylor isn't worried about the FCC ever auctioning the low FM frequencies used by some ALD systems, "simply because the amount of bandwidth involved is relatively minuscule and unsuited to high-speed wireless applications," he states.

Since the smartphones/tablets being used for ALD apps tend to be built in lockstep with FCC rules, noncompliance and loss of functioning

shouldn't become an issue for these devices.

The bottom line

ADA-compliant loops remain the system of choice for assistive listening systems aimed at people using hearing aids and cochlear implants--as do FM/Infrared systems that use neckloops, also ADA-compliant.

WiFi/app ALDs can be an option for smartphone/tablet users, and those with Bluetooth-equipped hearing aids.

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