

Musicians and Hearing Aid Design

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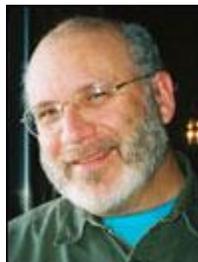


Welcome to the first of two issues of *The Hearing Review* devoted to a special group of people who have special—and fulfillable—technological needs. The hearing industry has made great strides of late toward providing effective solutions for people with hearing

impairment. However, our experience is that an important group of hearing-impaired people has been neglected and denied easy access to technology that already exists and effectively addresses their needs.

Musicians with hearing loss are that group.

So far, the availability of hearing aids effective for musicians who perform on stage is scant. This should not be the case! We see these publications as a means to an end: namely, to put a swift end to the unaddressed technical difficulties faced by performing musicians with



Marshall Chasin, AuD, MSc, Aud(C), is the director of auditory research at the Musicians' Clinics of Canada, Toronto. His latest book on the subject, *Hearing Loss in Musicians: Prevention and Management*, will be available from Plural Publishing in March. **Lawrence J. (Larry) Revit, MA**, is president of Revitronix, Braintree, Vt, a company that provides sound engineering and consulting services, as well as the R-SPACE system for accurate assessment of hearing aid benefit in real-world conditions.

hearing loss.

An essay by one of the co-guest editors leads off. Larry Revit has been a musician and sound engineer for his entire adult life. Decades ago, he experienced a career-changing hearing loss—leading to his studying audiology and hearing impairment. Larry describes his technical observations about "traditional" digital hearing aids, and relates his personal experiences and difficulties of performing "loud and raucous" music onstage in his home town.

Then we have a technical article by the "proud papa of high-fidelity hearing aids," Professor Mead Killion. The K-AMP®, invented by Killion and his colleagues, changed the world by offering a broadband hearing instrument that "nominally" provides 25 dB of gain for soft sounds and "disappears"—sounding clean as a whistle—with loud inputs as high as 110 dB SPL (typical of the loud and raucous parts of a live orchestral symphony!). Mead's article "summarizes information on what is required of a high fidelity system" and provides a practical procedure for checking high-fidelity performance in the dispensing office.

What can follow an article by Mead Killion? Co-guest editor Marshall Chasin, a founder of the Musicians' Clinics of Canada, is well known for devoting his clinical and research work to musicians with hearing loss. He and hearing aid researcher-developer Mark Schmidt team up to offer a "simple low-tech" alteration to non-occluding hearing aids that can provide—right now!—a useful solution for musicians with high-frequency hearing loss.

And more solutions! Jim Ryan and Shailja Tewari of Sound Design Technologies announce the arrival of digital signal processors that are designed to be musician friendly. This new chip joins the ranks of the Ezairo 5900 (from ON Semiconductor), and hopefully others, in offering the bandwidth, input dynamic range, and low delay times required for delivering high-fidelity sound to the hearing-impaired musician. The article describes many of the key attributes of a digital signal processing system, which targets that goal.

We also have a considerable amount of information in the rest of this online edition where we get it straight from the horses' mouths! In addition to new articles describing advanced technical solutions, several

musicians with hearing impairment offer their very personal experiences with hearing aids. Just to whet your appetite, one of these is an aircraft pilot turned audiologist who has recently provided effective hearing solutions for Elvis Presley's former bass player—and he contributes a brief essay of his own! (We tried to get Elvis to send an essay but, despite numerous sightings, he never got back to us...) More material on this topic will be available in the March *HR*.

We offer this collection of articles as an urgent call to duty to both the hearing industry and the dispensing community. We need to improve our service to performing musicians. They count on us for the successful practice of their profession. If we can make strides in providing this admittedly small but important segment of the hearing-impaired population with devices and fittings that are effective in their workplace (on stage), then we will have fulfilled a new level of success in our profession.

Previously, the inherent technical challenges posed limits on our potential to succeed. That is no longer the case. Furthermore, as we develop the technology and skills that serve this special group of sound-savvy listeners, all of our clients and patients can benefit.

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