

Loss Plus Correction Equals Baseline

Getting the right sound via the app and creating a specialized Speech/Music program

By CHARLES MOKOTOFF

As a musician with significant hearing loss, I may be one of the more unusual personalities simply because I started my career with my current loss. Most of my musician colleagues were hearing when they began their path to professional music performance and were stricken with their loss somewhere along the way.

This doesn't necessarily make my requirements different than others, but I am not burdened with the concept of *restoring* what I once had. I have absolutely no idea what my guitar sounds like with normal hearing. This is my own personal quixotic endeavor: to come as close to natural as possible, to be able to perceive my sound the same way an astute musician with normal hearing would.

There is nothing to be done to realize this goal. I practice to the best of my ability, make sure that my tone is clear, projecting well, and that my sound is full and round to my own ear. It is a sound that comes to me amplified of course, but along with it there is an internal feeling of the string and fingertip connection. Then I play for coaches with both perfect hearing and musical expertise, and I take their suggestions very seriously. In this way I cobble together a tone production technique that works for me. However, I never really have known what I sound like; it's a bitter pill to swallow but I've taken this medicine for years and am now accustomed to it.

Along these lines it becomes crucial for me to adopt a *baseline* of my sound. I have spoken of this often to other musicians with hearing loss, and know we all share this issue to some degree. I have come up with this simple equation: $L + C = B$, or *Loss plus Correction equals Baseline*. If either of these variables, *Loss* or *Correction*, is altered then so is *Baseline*—and sometimes quite dramatically. When that happens, I have lost my ability to *recognize my sound*.

My loss has not changed significantly in 45 years, but if I have a cold, or am plugged up from air travel, loss will become a variable. The correction aspect is, of course, the larger and more typically altered factor. For example: new aids, wax in the earmold, the mold coming out of the ear a millimeter or less, tinkering with the music program settings (either via audiologist input or a telephone application) are just a few possible factors. All affect the baseline result.

A change in actual hearing instruments is the most dramatic baseline

Recommendations for a "Musicians' Package" for Hearing Aid Users

A Smartphone app that has a 5- or even 10-band equalizer to modify music output. It should also be able to enable or disable automatic controls easily, such as feedback and attenuation levels, without a visit to the audiologist.

change. It can take several days, or even weeks, to adopt to the new normal. If I get this wrong—for example, adopt a deeper low end—my playing can suffer. In this particular case, the mind tells the fingers the sound is rich enough, but indeed it is actually not. It's a very complex undertaking. Analyzing it, trying to look at it objectively and scientifically, is helpful.

That said, I would encourage hearing aid manufacturers to be open to suggestions from musicians. My most pressing request, if I am not allowed to program the hearing aids myself, would be for more control over the programs currently allotted via the phone application. My current phone app allows for switching of programs, creation of favorites, and a 3-band equalizer. Not much else. It appears to me the audiologist can alter 95% of the hearing aid settings during a fitting, while musicians have 5% at their disposal to do on the fly via the phone application. Clearly this is out of proportion to most musicians' needs. For example, we should have a 5- or 10-band equalizer to modify music output. We should also be able to easily enable/disable automatic controls, such as feedback and attenuation levels, without a visit to the audiologist.

I have found that there are three types of programs I use: 1) *Speech* (in and out of noise); 2) *Music* (for performing/listening), and 3) *Music/Speech* (situations where I want music to sound rich but also to be able to understand speech, like when trying guitars with friends, or giving a lesson). In creating my Music/Speech program, I had the audiologist clone my Speech program and remove all automatic features. I then spent time configuring the program via the phone application so I could come up with a way to listen to music and also understand speech. In reality, it's not very good for either. I am confident that if I had more control over my own settings via the phone app, I could come up with a better "hybrid" music/speech program.

It wasn't long ago that I would travel to the audiology office with my guitar in the hopes of configuring a perfect music program. Since, at the time, I had *no* control other than volume once I got home, it was essential that I was comfortable with the sound before leaving the office. But oftentimes, when I went back to my practice space, I was disappointed. Today, it is far better because of our ability to tweak via the phone app.

Audiologists are well aware that users need to train the brain to accept a change; this is indeed a factor for both the overall sound of new aids and also for music programs. This period of adjustment must be taken into account when considering any change.



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