

Guitarist

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GEAR *OF THE* YEAR

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Music To Your Ears

Jamie Dickson joins Tom Trones of Minuendo to learn how to avoid the tone-conscious guitarist's worst enemy: hearing loss

Normally, this column focuses on maximising your guitar tone, from fitting new pickups to tweaking amplifier settings. But what if your very ability to hear the sound of your guitar in detail started slipping away? Sadly, that's exactly what happens to too many players – including luminaries such as Brian Setzer and Paul Gilbert – and often it is a permanent condition.

Hearing damage is an occupational hazard for anyone who likes to play loud, but its legacy can be a lifetime of being dogged by tinnitus (intrusive 'phantom' sounds, such as persistent ringing in the ears) or the permanent loss of important parts of your hearing range. It's a nightmare scenario for any musician, but it's also totally avoidable, says Tom Trones, the Norwegian founder of Minuendo, a maker of specialist hearing protection for musicians.

"Damage to your hearing is caused by too-high noise levels over too-long periods," Tom explains. "For musicians, that's typically going to be a risk in rehearsals as they can last up to eight hours a day. Or if you're in the studio tracking, you could be doing 12 hours at a time. It could even be a problem if you are just sitting in your room and practising with the amp cranked up regularly. That can be hours on hours with relatively high noise levels, so over time that really adds up," Tom explains.

So, what is a safe volume level that our ears can tolerate without damage over the course of a working day?

"We can quite safely handle around 85dB over a period of eight hours per day, if the rest of the day is relatively quiet and you can rest your ears," Tom explains. "Having periods in between high-noise exposure to rest your ears is really important. So if you've been rehearsing all day, but then you listen to music quite loud on your earphones on the way home, those are the kinds of situations that can really tip you over the edge in terms of what exposure dosage you had during the day."

For anyone wondering what 85dB sounds like in real-world terms, Tom explains that it's at the upper level of what we might regard as typical daily noise levels.

"It's far away from the pain threshold, but for some it can feel uncomfortable. Normal conversation is around 65dB, perhaps. A rock concert can easily be 100dB to 115dB in some extreme cases. 85dB would be very loud traffic noise, for example, or a regular rehearsal without heavily amplified music or instruments. There are several charts [available online] that show examples of these kinds of decibel level that you can check if you're not sure."

Too Much Of A Good Thing

Tom stresses again that hearing damage is usually caused by lengthy exposure to high sound levels, not a single very loud event – even if this runs contrary to musicians' instincts.

"What we tend to hear from musicians is that they have a very specific event that they blame for the onset of tinnitus or hearing damage," he says. "They might say, 'It was that time at soundcheck when the drummer suddenly just blasted the cymbals next to my ear,' or 'That sudden trumpet blaring from behind...!' So even though a lot of the damage that we see is actually caused by longterm build-up [of hearing damage], most people have this specific incident that they attribute it to, which may not be entirely correct – but maybe for them that was the last thing that happened before they experienced a noticeable change in either tinnitus or permanent loss of hearing in a specific frequency range."

Tom does add, however, that high-energy midrange and treble frequencies pose a greater threat than bass.

"Generally, a cymbal will be potentially more tinnitus-inducing than a bass drum that is just way too loud. We're able to handle low-frequency noise a lot better as well, so it's not really considered as dangerous," he explains.

Likewise, when hearing damage does occur it's usually not receptivity to bass frequencies that we lose. Instead, it's all the detailed treble that makes music sparkle with clarity and definition, which can have serious consequences that go beyond not being able to enjoy music.

"It's the higher frequencies that go first," Tom says. "That's particularly the case when you get older. There's something called age-induced hearing loss and [any additional damage] speeds that up a bit. So, typically,

"Imagine a tea kettle going off in your head, 24/7," said Brian Setzer of his "maddening" tinnitus. An audiologist helped him find relief, but his advice to all players? "Please wear some earplugs, now"





you'd lose your higher frequencies and that affects how well you perceive language quite rapidly. That really can cause a loss in quality of life as you are not able to be social and communicate in the same way that you're used to."

Alas, as all too many guitarists can confirm, it's not just outright damage to hearing that we risk by not protecting our ears properly. Tinnitus, those irritating phantom sounds that signal we have abused our ears too much, can be a lifelong problem and maddeningly intrusive. Tom explains that nearly all of us will have experienced a temporary form of tinnitus: the ringing in your ears after leaving a loud rehearsal or gig. Thankfully, that usually goes away after an hour or two – but push your hearing too far and tinnitus could become a permanent presence in your life, he explains.

Nagging Noises

"Tinnitus is very highly correlated to hearing loss," Tom says. "So one way of looking at it is: if you have tinnitus, that's a sign that hearing loss has begun in some form. Although it may not be directly measurable, it can either be the start of, or the result of, some form of hearing loss, and that's one of the things that also really deprives people of quality of life."

So, what can guitarists do to protect their ears while still playing hard? As Tom says, taking regular breaks from

Protecting your ears during loud gigs is a no-brainer, but you should also be aware of the risks from regular exposures to high noise levels, such as at band rehearsals or in the recording studio

"Musicians tend to blame a very specific event for the onset of hearing damage... but a lot of damage is caused by longterm build-up"

continuous loud noise is an essential first step, but it's far from the only protective measure you should consider.

"There are the things like being aware of where you place yourself... just be aware if you're right next to the drums, for example. Breaks, being aware of how you schedule rehearsals, these kind of things are important..."

Of course, protective earplugs can also help a lot and they've come a long way from the crude foam plugs of old. The latest designs, including Minuendo's own lossless hearing protection earplugs, keep the timbre, tone and detail of what you're hearing intact while reducing sound pressure on your eardrums to safe levels. Minuendo's ones are even more flexible because they offer variable attenuation of 7dB to 25db, which is adjusted via a small slider on the earplugs, like a volume control.

While Minuendo's lossless earplugs aren't the only ones on the market that are custom-made for musicians (brands such as Vibes, Alpine and Flare Audio all offer specialist hearing protection), they should definitely be on your list to try out if you want to protect your greatest tonal asset of all: your ability to hear. **E**

THREE TO GET READY

Gadgets to help protect your hearing



Minuendo Lossless Adjustable Earplugs £128

These next-gen earplugs from Minuendo offer a natural listening experience with a flat frequency response while attenuating loud environments by up to 25dB, though the level is adjustable like a volume control. Minuendo says they stay firmly in place while singing or talking, too.



Two Notes Torpedo Captor X £459

This "all-in-one load box, attenuator, cab simulator, IR loader and more" is great for guitarists who want full-bore valve tone at lower volume levels. Its reactive load attenuator mimics the complex dynamics between an amp and speaker, allowing you to run the amp flat out for juicy tone while turning the audible output down to easy-on-the-ear levels. Sophisticated cab simulators make it a great direct-to-DAW recording tool that could replace loud volumes and mics in your studio.



Yamaha THR5 Modelling Guitar Combo £164

Another route to great tone at modest volumes for practice sessions is a small, high-quality modelling combo. Yamaha started the whole genre with its THR range and this 10-watter is perfect for keeping the sounds hot but the output low. It features five "switchable modelling presets that vary between Clean, Modern, Lead, Brit Hi and Modern amp tones", plus a raft of effects, tuner, a USB 2.0 interface so you can use it for recording into your DAW, and natty, minimalist styling.