Subject: Damage to Hearing
Posted by Dean Kukral on Sun, 14 Mar 2004 12:30:06 GMT
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Every time I see Mike's auto subwoofer it reminds me to buy stock in hearing aid companies.This is a joke that my wife and I, two older fogies in our early sixties, frequently make when some guy with a ridiculously loud car stereo pulls within 500 feet of us. It is sad to think that a whole generation will be unable to appreciate good music by the time they are forty. Well, come to think of it, they can't appreciate good music now!("Rock and Roll is here to stay; it will never die; it will always be that way; but I don't know why; I don't care what people say; Rock and Roll is here to stay....")I made the comment last night at the Duplicate Bridge club when some annoyingly loud car was thumping away out in the parking lot, and she said that she thought that bass was not as damaging to hearing as treble.Got me thinking.In electromagnetic radiation, higher frequencies contain more energy than lower ones. And I think that I read the same thing lately in my studies of Acoustics. (Been reading some of Olson and Marshall's books.)Is it true that Mike.e might not really be deaf by the time he is 30?Is it true that there is no justice in the world, and all these guys with their #$%^ $^@#$%-F@#$&*$ thumping noisy car stereos are not really going to go deaf any day now? (As opposed the the rock concert goers, for whom it is already too late.):) :) :) :) :) :) :) :) :) :) :) :) :) :) :) :) :) :) :) ;)

Subject: Re: Damage to Hearing
Posted by wunhuanglo on Sun, 14 Mar 2004 15:30:09 GMT
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I'm not too sure that there is more energy in the higher frequencies. One reason I think that is, in a 2-way speaker, most of the amp power is going into the woofer, not the tweeter.As far as frequency dependence on hearing damage goes, I've never heard that referenced. We have to go through an annual lecture on hearing protection and related OSHA matters, and all they ever mention is SPL (over 85 dB). They never mention spectrum at all.What seems to dominate is rise time and peak level - a very loud impulse might permanently deafen you instantly, as opposed to a prolonged exposure to 100dB.

Subject: Re: Damage to Hearing
Posted by Wayne Parham on Sun, 14 Mar 2004 15:55:48 GMT
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I think about hearing loss a lot too. I listen to my music way too loud sometimes, and I like to be right by the tree when the top-fuel dragster's launch. In Tulsa, you can get within 10 yards of the cars at the starting line, including the top fuelers. I've never measured SPL there, but it is incredibly loud. So that'spretty stupid and I try to limit myself from exposure to such loud sounds

very often, but then again, it's kinda like flooring the accelerator - Sometimes you just feel the need for speed...

Subject: Novi
Posted by Dean Kukral on Sun, 14 Mar 2004 16:39:48 GMT
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Back in the 60's there was a race car at Indianapolis that was called the Novi. It never won anything, but it was a crowd-pleaser because it was very, very loud. It almost hurt my ears as it went by, even though I was 100 feet away.

Subject: Re: Damage to Hearing
Posted by Dean Kukral on Sun, 14 Mar 2004 16:54:39 GMT
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So, I guess that investing in hearing-aid stock is still a good idea! :)I suspect that prolonged exposure to a humongous woofer in the trunk might still get to you! (Mike, I hope you're a good sport, because, you gotta admit, that thing of yours is a bit extreme! :)What causes hearing damage? Are the finer cilia torn off by a sudden peak?I bought a sound pressure meter from RS a few months ago when I started getting interested in Acoustics (largely because of these discussions), and I was interested to find that if the spl is 100db near my speakers, that is more than enough for me sitting at my couch. (My speakers can go much louder than that.) I was also interested to do a sweep with a signal generator and find out that there is a fair amount of sound at frequencies that I cannot even hear. If a tree falls in the forest, and nobody hears it, can it still make you deaf? :)

Subject: Re: cilia
Posted by wunhuanglo on Sun, 14 Mar 2004 18:44:49 GMT
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As I understand it, the way they react is they are standing straight up, and when they are hit by a sound wave they sway like a wheat field in the wind.If the sound level is too high, they get squashed down flat(er) and don't rise back up to sway as they once did.One time I read the assertion that horn speakers were all the rage in the 50's because of the returning WWII vets. They went to school on the GI Bill and got good jobs - jobs that afforded them the leisure and money to play with audio. But their hearing was very poor from all the gunfire and large bore weapons they were exposed to - hence the love of horns and high SPL with the available amplification.Interestingly, Paul Klipsch developed the KHorn while working as a range officer and

doing velocity testing on projectiles. He sold a lot of them to his fellow vets.

Subject: hehe
Posted by Mike.e on Mon, 15 Mar 2004 00:52:06 GMT
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I find that with C weighting my midrange is very quiet,at near 80db,its my bass only that i have turned up,and yes sometimes i listen to an entire cd at high level, perhaps 110-115db in the 40hz-60hz region. The sub isnt in my car right now, my 12" version with lab12,and 33hz F3 should be even better and louder with the same power (less power compression)My sub is actualy quiet,some of my mates have cheap pioneer 12"s getting 130-140db in car,thats just silly,cos it sounds like a piece of distortion anyway!Cheers!
