Subject: What are possible future audio innovations?
Posted by brian21 on Tue, 01 Feb 2011 07:25:55 GMT
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It seems like there are many new video developments recently. Blu-ray and 3D movies and TV's come to mind. Does anyone have any ideas as far as what the next big audio invention might be?

Subject: Re: What are possible future audio innovations?
Posted by Adveser on Tue, 01 Feb 2011 20:04:35 GMT
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24-Bit digital audio will eventually take over for the simple fact that:

A) they can resell you the albums you already own, but this time it is REALLY worth it. [my opinion, not the marketing strategy they would use]

B) No artist wants a less-than-ideal version of their album out there. Musicians and engineers generally understand that even redbook audio is very faulty to begin which is why MP3 has taken off. If you already have a mediocre product, what's the difference degrading it just a little more? They would be eager to make that last push before they die [in many cases] and actually get something that is almost an exact copy of the master tape out there.

C) I am not sure of this legally, but I am pretty sure a completely new "master" warrants a brand-new copyright on the "package" of an album with it's artwork.

Subject: Re: What are possible future audio innovations?
Posted by jazzlover on Thu, 03 Feb 2011 14:41:51 GMT
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Adverser, I wonder how the upgrade to 24-bit is going to be done. I can see that recording studios would have to rerecord the songs, because it doesn't make any sense to simply produce the 24-bit "master" by copying the old master.

Subject: Re: What are possible future audio innovations?
Posted by Jenny76 on Thu, 03 Feb 2011 19:39:10 GMT
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It's so hard to know what the next invention will be. Looking back, 3D seems to obvious to me and I often wonder "Why didn't I think of that?" I'm sure it's going to be something so simple once again and when it comes out, we are all going to wonder how we ever did without it

Subject: Re: What are possible future audio innovations?
Posted by Adveser on Thu, 03 Feb 2011 22:05:26 GMT
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jazzlover wrote on Thu, 03 February 2011 06:41Adverser, I wonder how the upgrade to 24-bit is going to be done. I can see that recording studios would have to rerecord the songs, because it doesn't make any sense to simply produce the 24-bit "master" by copying the old master.

It already happened. They are just mastering the final product down at 16bits or 20bits if it a HDCD or is going on a DVD.

It isn't so much what they need to do to make 24-bit standard it is what they will have to avoid doing.

Let's look at an example. The year is 1990ish and the Sony Mastersound studio has just received the masters from Tom Scholz to make an audiophile edition of Boston's debut album. They will run these tapes into a machine that will sample them at what is now up to 192Khz (though 48Khz is enough) and a bit-rate in this case of 20-bits (even back then)

Once everything is ready to go, they'll master the recording for CD, which results in turning the 48Khz/20-Bit digital transfer into a 44.1Khz/16 bit recording.

So the process is essentially to remove the last step.

Everything that has been "remastered" since the mid-90's is ready to go, they just need to stick the digital transfer on a hard drive in PCM/Wav audio and likely adjust the sounds since that is the second important part of mastering that is still needed.

Subject: Re: What are possible future audio innovations?
Posted by GoodVibrations on Sun, 13 Feb 2011 18:26:44 GMT
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I guess I wouldn't know what type of difference a 24-bit will make from a 20-bit until I can experience it. I have noticed a big difference when I bought higher-quality ear-phones when compared to the cheaper ones, but the sound I get now is awesome. So it can get even better?

Subject: Re: What are possible future audio innovations?
Posted by Adveser on Mon, 14 Feb 2011 02:14:23 GMT
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Well, a higher bit-depth is going to result in a much more accurate recording. Keeping in mind that the example is an ideal scenario, that is for two reasons primarily:

1. an almost non-existent noise floor which will cease the masking very high frequencies that

affect clarity and accurate timbre.

2. The average volume can be much lower while maintaining a "true" resolution. The way digital works is it counts values. If there are no values (zero value) at the higher volume bits, the bitdepth is truncated. They add a dither to maintain a certain bitdepth at all times to prevent distortion (as well as it's other function to act as negative feedback. A good classical recording during a soft passage will be presented at a much higher resolution at lower volumes. Hypothetically going from 12bits to around 20bits of information for the same sound (Example numbers)

Subject: Re: What are possible future audio innovations?
Posted by GoodVibrations on Mon, 14 Feb 2011 18:09:11 GMT
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Adveser wrote on Sun, 13 February 2011 20:14Well, a higher bit-depth is going to result in a much more accurate recording.... A good classical recording during a soft passage will be presented at a much higher resolution at lower volumes. Hypothetically going from 12bits to around 20bits of information for the same sound (Example numbers)

Thanks for the explanation, that makes it easier to understand. I have listened to a few songs where the singer's voice is very soft and low and I have to turn the volume way up to try to understand the words being sung. With the 24bit-depth, it should be much clearer and easier to hear without turning up the volume.

Subject: Re: What are possible future audio innovations?
Posted by Cask05 on Sun, 01 Dec 2013 17:13:01 GMT
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"What are possible future audio innovations?"

Well, perhaps this isn't well known, but there is already a trend to move all processing/filtering into the digital domain--all the way down to the last stage then do a single D-to-A, then final amplification. This means that all external upstream components use something like HDMI or USB buses, i.e., no analog cables, etc.

If you integrate this with very good class D amplifiers or even single-stage or dual-stage FET amplifiers like Nelson Pass uses in his First Watt amplifiers, the results are pretty spectacular, and ultimately, much more affordable once the techniques and technologies become much more widely used.

The sonic benefits are already being noticed by a few, including artto over on the Klipsch forum - just ask him about the differences in sonic characteristics using an NAD C390DD.

Subject: Re: What are possible future audio innovations?
Posted by gofar99 on Sun, 01 Dec 2013 19:44:15 GMT
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Hi Yeah, and then they are going to imbed the chips in our heads.

As much as like all analog systems, especially with valves....digital is taking over a lot of the high end. CDs are on the way out and even HDCD and Blue Ray audio is movign in that direction.

Subject: Re: What are possible future audio innovations?
Posted by Cask05 on Sun, 01 Dec 2013 21:35:41 GMT
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Actually I don't believe that 44.1 KHz/16 bit word Red Book CD files (whether played on disc or ripped to a lossless format and played back on a DAC) are going out anytime soon. The reason is that they are almost indistinguishable from higher sample rate/bit depth format files when played back on blind tests. YMMV.

This isn't true of analog tracks that are easily distinguished by a serious lack of dynamic range, (a.k.a., 12 dB then "hissssss"), and mono bass as well as a litany of other issues (pop, tick, wow/warp-age, etc.)

As for any anti-digital notions mentioned above--can't help you there. It's been really clear for me since 1985 when I acquired my first disc player and discs. YMMV.

Subject: Re: What are possible future audio innovations?
Posted by Cask05 on Sun, 01 Dec 2013 22:07:10 GMT
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gofar99 wrote on Sun, 01 December 2013 13:44...especially with valvesI didn't know that you were British. I'm from around here: we call them tubes.