

Re: File sizes incorrectly reported (and huge!)

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From: Rodolfo J. Paiz (rpaiz_at_simpaticus.com)

Date: 08/22/03

To: Goncalo <goncalo@mail.eunet.pt>
Date: Fri, 22 Aug 2003 12:26:30 -0600

At 8/22/2003 18:17 +0100, Goncalo wrote:

> *Actually I was kidding with my reply and just trying to put a bit
> of humour.*

No problem...

> > *Think of an MP3 as a cassette of old times: portable, convenient,
> > wonderful, but of lower quality.*
>
> *I may be wrong but allow me to disagree with you.*
>
> *With a .wav you get an exact copy of a CD – so you get CD audio quality.
> A CD is recorded with 2 channels (stereo) with a sampling frequency of
> 44.1 kHz giving you a max audible frequency of 22050 Hz.*

Please note the "exact copy" part. This is a good thing, since I wasn't at the Acropolis for the Yanni concert or in the recording studio with Kansas; and thus the CD is the best possible audio quality to which I have access.

> *The MP3 (MPEG2–Layer 3) audio format was designed carefully to discard
> non–audible sounds, i.e., sounds that the human hear can't hear.*

Note the word "discard".

> *Of course you may have to adjust your bitrate not to discard too much
> data, but statistically you'll get an (almost) exact recording of the
> sounds you can hear. (and MP3 design was real tested with many human
> listeners to know what to discard and to record).*

Note the words "(almost) exact".

Bottom line: MP3 throws out data to get better compression. At that point, the total quality of the data is reduced, and the lost data can never be recovered. An MP3 file derived from a WAV file thus has lower audio quality than the original WAV file; period, end of story, mathematically provable and non–negotiable.

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The argument for MP3 boils down to:

1. There is a small loss in audio quality, and most people, on most stereos, can't hear the difference.
2. There is a huge gain in compression, and everyone can see that.
3. Therefore MP3 is better: lots of gain, little or no perceivable cost.

When you want a reasonable level of audio quality at a low file size, MP3 is a fantastic solution. However, when you want the best long-term storage for your music, or when you want the best possible level of audio quality, MP3 is a terrible solution.

The argument above is categorically false: MP3 is not "better" in audio quality, ever, in any way. On the other hand, MP3 is definitely more *_convenient_*, and thus more *_appropriate_*, for certain situations. I listen to MP3-encoded music in my car, for example, since having 60 songs on one CD is great, and the road noise makes the (overall quite good) quality of my very-high-bitrate MP3s perfectly acceptable anyway.

I listen to my WAV files at home, where a 500GB RAID-5 array and hardwired Ethernet to every room make it wonderful (and where the \$1,500 stereo system I saved for ten years to buy would make my MP3 files sound horrible), and I listen to MP3 when I'm out in the car, or on a weekend trip, or to carry to the office on my notebook, etc. Each has its place in the world.

So, my original point: destroy my WAV files? Heresy! Never!

*>Please feel free to send your reply to the RedHat list, as I sent my
>reply to the list also, and you have the right to "defend" yourself by
>replying to the list (although this is a bit out of topic – my fault).*

Done. <grin>

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