

Mp3 vs. WAV

defining professionalism



True story: We're at one of Orlando's trendier nightclubs, celebrating a special occasion with friends and looking forward to what we'd heard was a pretty good guest DJ. One look around told us that this guy was no slouch. His decks were cutting-edge, his speakers top-shelf, even his look had us thinking this guy is the total package, a pro. The lights darken, we turn in our chairs as he begins his set and... we're greeted by the two-dimensional clipped sound of MP3, circa 128 kbps.

We think our waiter summed it up best. "Is it me," he asked as he delivered our drinks, "or does the music sound like geese farts on a muggy day?"

Check, please.

For those who wouldn't know an MP3 from an ornithological poot, let's review...

MP3 is a digital audio format created at Germany's Fraunhofer Institute that gained global popularity because it could shrink a CD song into a manageable, e-mail friendly size at a time when dial-up Internet made all the rules and storage needs were defined by 250 MB hard drives.

Shrinking, or compressing, a song tosses out bits and pieces of the music file that we don't generally hear, or don't miss, or so we were told.

Today MP3, along with other lossy formats such as AAC (used by Apple) and Ogg Vorbis (a favorite due to its lack of patent restrictions) continues to grow in popularity, largely thanks to the popular paradigm that convenience outweighs quality, and the fact that far too few know what good audio sounds like.

We're here this month to set the record straight about MP3, and to explain why as a professional DJ you should be setting your sites (and bit rate) higher.

Listening to an MP3 of Hotel California is the equivalent of viewing the Mona Lisa as a jpg.
(Don Henley)

Much of what you hear when you listen to any well-recorded piece of music is left on the editing room floor when compressed to MP3.

Harmonic overtones, stereo separation, frequency range, spatiality - all the things you've paid top dollar for your speakers to faithfully recreate - all the things, we might add, that make music music - don't survive the transition to MP3.

If you'll think of sample rate as a series of snapshots taken every second that represent a sound digitally, and bit rate as what determines how quickly those snapshots are processed and how precisely they're rendered, it's easy to see how MP3 falls short: CD-quality audio has a bit rate of 1411 kbps (kilobytes per second); MP3 tops out with a bit rate of 320 kbps. Not a biggie when you're rocking your favorite tunes on your earbuds. Definitely a buzz-kill if you're pumping what is basically a QUARTER of the information a song contains through a full-range speaker.

All you really need to know:

When you convert to MP3 there will ALWAYS be compression involved regardless of the bit rate used. So if you convert a WAV file (the type of audio file used on a standard CD) to an MP3, no matter what bit rate you use, that MP3 will NEVER be of equal quality to the original; and can NEVER be restored to WAV's full luster.

Which brings us to the subject of lossless files, such as WAV, and why, given the advent of **terabyte** hard drives priced at or around \$300.00, they're the far better choice for a pro on the go

The WAV format is the most detailed and rich of the digital formats. Because WAV files are uncompressed, they contain more data and produce better, more subtle, and more detailed sounds. How much more detail? A WAV file generally needs 10MB of storage space for every 1 minute of audio, whereas an MP3 needs about 1MB for every 1 minute.

If MP3 is McDonalds,
then WAV is a full-course, five-star meal.
Of course, you can't squeeze
a full-course meal into a paper bag.
But then, why would you want to?

It all boils down to setting professional standards, says Pete Werner, Promo Only's co-founder and executive program director. What we're seeing today is a boom in DJs who are willing to trade quality for

convenience. We're here to say is that some things shouldn't be compromised; and that thanks to the unprecedented affordability of today's massive hard drives you don't have to.

Do the math: Store a four-minute song as a WAV file and you'll need about 40 MB of storage, the equivalent of 40 million bytes.

Your everyday terabyte hard drive can easily house some one trillion bytes.

Divide that 1TB by 40MB and what do you get? Storage for 25,000 CD-quality audio files.

To put matters another way: If two DJs leave for their gigs at the same time, driving the same distance at the same speed to play the same hits on identical speakers; and one DJ plays MP3s while the other offers his audience the crystal-clear punch and brilliant high-end of WAV, which of the two DJs is more likely to be booked again

Continues Werner: Ultimately your choice of formats affects not only your reputation, but the industry's reputation as whole. Our job as professional DJs and music lovers is to preserve the integrity of the music we play, as well as to provide our audience with a peak musical experience they can't get from their home, headphones or car stereo.

Ask yourself this: What's the difference between you and some punk DJ wannabe who'll work for less if you're BOTH playing compressed files?

The solution? Given the low cost of storage and the high quality of uncompressed audio files, ride the WAV.

After all, geese farts and working for chicken feed are for the birds.

Hearing is believing: Visit www.promoonly.com/audiosamples.php to hear what you've been missing

Words by Glen Ervin