

What Sample Rate and Bit Width Are Best For Audio Restoration?

A Consensus Has Been Reached as to How to Record with Diamond Cut

Perhaps the most frequently asked question we have received over the years is, "What Sample Rate and Bit Width should I record at?"

This is a simple question, but the answer has not been simple over the years. You see, higher sample rates and wider bit widths result in bigger files. You also get longer restoration times due to these larger files and you have to then change the sample rate back to 44.1khz/16 bit before you write to a CD.

In the days of Pentium 400 class machines, the extra time, space and work may not have made much sense. But today, our fast machines and large hard drives render this a moot point. So, we are officially recommending that Diamond Cut users record their audio at 96khz, 24 bit, stereo.

We've covered the disadvantages of this recommendation, but we believe the advantages now outweigh the downside. First, you'll get better results from our click and pop detectors. Remember, a click looks to our filters like a burst of energy at all frequencies. Since our music doesn't have information at greater than 20khz or so, when we see a large amount of activity at higher frequencies, we can use this information to help find clicks.

Next, you'll get more accurate recordings with greater dynamic range. This is quite useful with some of the tools in Diamond Cut in that you can apply more expansion (for example) without clipping.

Lastly, you'll get a chance to do something that may be of value years from now. We recommend that you take your unprocessed, original 24 bit, 96khz masters and write them to data DVDs. Now you can put these masters on the shelf and if your record collection gets sold or damaged over the years you'll have a high-resolution master to work from.

You'll also be able to quickly get back your original audio and restore it again with some new, revolutionary filter than might be available 5 years from now.

So - do your recording at 24/96 and save your unprocessed recordings on data DVDs. This is what most serious archivists do.

If you are still using your old motherboard or SB-type soundcard, check our new 24 bit soundcards:

<http://www.tracertek.com/khxc/index.php?app=ccp0&ns=catshow&ref=stereocards>