



Restoration Tips:

Ten Common Myths/Questions About PC Audio: The FAQ

PC audio is still in its infancy as compared to the rest of the audio world. The price of entry and speed of processing power used to be the major obstacle for those individuals who wanted to test the waters of creating a reasonable PC audio system...but no more. Today, the price of entry is laughable. In this new world, you can buy processing power equal to NASA's first moon launch for about what you'd pay for a night of dinner and dancing at your favorite haunts. Price of PC audio gear and incredible audio advancements in sound cards, software, CD Making, etc., has also made it possible for virtually anyone to afford a PC audio system that rivals and usually beats your home stereo. The candy store is open, but before you stuff your face...head to the store or the web armed with some important facts:

I bought a very expensive fast computer. I paid top dollar and got their best sound card. Bring on the record deal...I'm ready to record!

Hold on there Elvis. While you are probably ready to tackle the newest Space Invader 7 Sequel, you probably aren't quite ready for fame and fortune just yet. Most computer companies only offer a choice between a low quality game sound card and a high quality game sound card. These cards are fine for the basics, but if you plan on using your computer to record original music, clean your old records and tapes and put them on CD, or take your favorite MP3 files and make original CDs, then you may come up a little short when you pop that CD into your car or home stereo.

The problem with most low-end sound cards is one of cheap components and poor shielding. Anytime you have a device in a noisy environment like your computer, it is imperative that your audio input and output sections be properly sealed off from that environment. If not done correctly, you will notice a great deal of noise in your recordings as well as in your speakers whenever you work with your computer. Even moving the mouse can make noise if your sound card is improperly shielded.

If you plan on purchasing a computer system and the plan includes audio recording, buy a system that doesn't have a sound card, skip your local computer store and call an establishment that specializes in PC Audio products. www.tracertek.com, www.midi-classics.com, www.enhancedaudio.com, and www.cdrecordingsoftware.com are just a few reputable computer audio web dealers.

My computer sounds great when I play CDs in my CD ROM Drive. I must have gotten lucky and gotten a good sound card bundled with my system...right?

Wrong. Your sound card basically just passes the audio output of your CD player to your speakers. This eliminates the noisy part of the sound card, so even though it sounds great, that doesn't necessarily mean that your sound card records well.

I think that my MP3 files sound as good as CD.

Of course everyone has an opinion about audio quality. Just like everyone will pick a different bag of potato chips when asked which are their favorites. If you love your MP3 files as they stand, more power to you...but just understand that the science behind the process doesn't back your theory. MP3 files are great things...not only do they transfer easily over your 28.8 connection to the Internet, but they sound pretty cool. Unfortunately, when you stand them up against their CD quality brethren, you'll notice some pretty big flaws in your ideas about their quality. First, MP3 files are compressed. What makes them so attractive in the download department also makes them less attractive in the sound quality department. MP3 compression is accomplished by removing 90% of the information in the file. Though MP3 does an amazing job of leaving some pretty tasty remnants, the results are still somewhat dull and lifeless.

Can my MP3 files be improved?

Certainly. www.enhancedaudio.com provides a new plug-in for the popular Winamp MP3 player called Enhance/MP3. This product combines a series of 6 patent pending algorithms that analyze your MP3 file (each one is different) and decides what it needs to move the sound back in the direction of the original CD. Enhance/MP3 then gives you its best guess. But don't fret, a series of sliders is also provided so that you can dial in the file to match your own specific preferences. This is an amazing piece of software that really improves your overall listening enjoyment for \$10.

What is Multi-track recording and how does it affect my computer audio system?

Simply put, multi-track recording is the ability to record multiple instruments or voices simultaneously and control elements of each instrument or voice separately. This is done every day for musical recordings and multimedia presentations. It can be accomplished cheaply and with great quality. There are several options that you can look into: multi-channel software, a multi-input/output sound card or a combination of both. If you are a singular musician or multimedia artist and you plan on recording each track of your work by yourself, one track at a time, then you need a piece of multi-track software but can probably use a standard stereo sound card. Though the price of multi-track hardware is a fraction of what it used to cost, there's really no reason to put a card like this in your machine, if you never plan on having more than one element of your production recording at the same time.

In a band setting or a large ensemble multimedia presentation, a multi-channel card is the best solution, because you can record multiple instruments or voices simultaneously, but still have those elements separate within your production. This comes in really handy when 3 of your 4 elements have played or performed perfectly, but one element has made a mistake. You now only have to record that singular element rather than trying to get everyone to play perfectly again.

Today, these multi-track hardware and software solutions provide musicians and multimedia professionals with professional tools...minus the expensive hourly rates of a professional recording studio.

What are AES/EBU and S/PDIF Digital Interfaces...Do I need one?

There are really two types of recording...Analog and Digital. Digital basically transforms your audio into ones and zeros and offers far better quality. Digital comes in several flavors that demand different connectors and matching equipment on input and output. S/PDIF, AES-EBU, and Optical are the three most common digital formats. In order to record in digital format, you will need an input or output device that supports these formats. Mini Disks normally have a digital Optical interface, Digital Audio Tape Machines (DAT machines) normally offer either AES-EBU or S/PDIF formats and many CD players have S/PDIF outputs...if you have these outputs, use them, they're quiet and the best quality...if you don't have them, don't bother wasting money on an expensive digital card that you can't talk to.

I hear lots about 24 bit 96kHz sampling...Do I need it?

Today's big buzzword is 24-bit 96 kHz sampling. Many people insist on this format yet they don't even know what it is. First off, all audio CDs provide 16 bit 44.1 kHz sampling and for most folks, this is all

you'll need for quite some time. Not only can most people not take advantage of 24 bit 96 kHz sampling, they also create huge files that clog your hard drive and make your life miserable. 24-bit 96kHz sampling is DVD quality...and unless you have equipment that can handle it...wait and save your hard drive. As you've probably become aware... in the world of hardware and software...the price always comes down...on everything...wait until you need it to buy it!

Compressing with MP3 is just like using Winzip, right?

Sorry, that's not right Both Winzip and an MP3 encoder will make your files smaller, but only Winzip can restore your files to just the way they were before the compression. MP3 encoding makes your files smaller, but cannot ever put your audio files back exactly they way they were. This is why MP3 audio files frequently sound thin and lifeless.

Computer audio is just for fun and games, so why should I really care about quality?

Quality for audio is always an important issue. When you buy a home or car stereo don't you listen and choose the one that sounds best in your price range? The only reason the average person thinks computer audio is, by definition, low quality, is because he or she has never been able to enjoy really good audio on the computer. Mostly, this is because their speakers are poor and their sound card is poor and their source material (Real Audio for example) is also poor. But this is changing rapidly and more and more people are becoming aware that, like their home stereos, they can get significantly better audio for only a few dollars more.

Computer audio has also become an important part of law enforcement as a way of cleaning important evidence for trial. www.enhancedaudio.com provides a Forensics Audio package which lets law enforcement professionals prepare critical evidence for trial that may have been accumulated via body microphones, cassette recordings and other analog sources. This audio frequently must be deciphered and cleaned in order to understand the intentions of the recorded source.

In this digital world, no one cares about analog audio anymore.

Not true. Millions of users worldwide have precious analog recordings on vinyl or tape that they would love to transfer to CD. Most of these recordings will never be available on CD in any other way. These consumers are ripe for information on this process and for software and hardware tools to make it easy. www.enhancedaudio.com is known worldwide for providing the best audio restoration tools in the business. With these tools, you can remove clicks, pops, hiss, surface noise and various other disturbances from your treasured recordings. If you've decided to commit these precious recordings to CD, you should make them sound as close to their original state as possible.

Tracer Technologies specializes in Audio Restoration and Sound Products. Their Diamond Cut products are world leaders in Record and Tape Restoration as well as Audio Forensics.

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