

Chapter 7 – Clean-up Software

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A book could be written on restoration (or clean-up) software. In fact, many books **have been** written – the User Manuals and tutorials that accompany the software.

We have looked at restoration software ranging in price from “free” to \$1200. We have paid our money and licensed several of them for evaluation and use in clean-up projects. Generally, you get what you pay for. Audio restoration can be very time consuming: in some cases, many hours to clean-up an hour of music. The inexpensive programs can, in some cases, do a fine job but usually at the expense of a lot of time – trial and re-trial. The more expensive programs help you do the job faster and may be well worth the expense if you are doing a lot of clean-up or doing it professionally.

I’ll list all the software we have evaluated and give you my opinion about its usefulness. It’s important to fully learn any program’s features and the only way to do that is by spending a lot of time using it. I’ve also found it useful to have more than one tool in your toolbox. Some programs do a better (or faster) job of removing certain kinds of “noise” than other programs and it’s not necessarily the more expensive ones that are better. There is more on this topic in our **Case Studies**.

This list is in alphabetical order and the version numbers, prices and web addresses are all current as of the date on each page. *DC* (for Diamond Cut Productions) *Millennium* includes a short, very noisy, mono test file named *demo1.wav*. I converted it to a stereo file by copying the mono data into both stereo channels. The new file is named *sdemo1.wav*. I tested most of the listed restoration programs on *sdemo1.wav* and I’ve included the results. (These are all Windows® programs and most will run under versions 98 and above. The ones that requires Win2000®, XP® or VISTA® are noted.)

Don Walizer has suggested that you record the file to be cleaned at 96/24 or higher. That is, a sample rate of 96 kHz and a bit depth of 24. I agree with this because you can use more aggressive filtering without introducing “artifacts”. A sample rate of 192 kHz would probably be even better if your sound card can handle it and you don’t mind the larger file size and somewhat longer processing time. The higher rates are especially important for *Diamond Cut* software as most of their filters are not too useful at the CD standard of 44.1/16. This is probably also true for others such as *Sound Forge* and *Wavelab*. However, most of the lower priced software, such as *Mono-A-Mono*, expects a CD standard file. Consult the documentation or just try it!

Also, please note, that by doing the clean-up on a higher-resolution file you can enjoy the higher-resolution music by playing it from your hard drive or writing it to a DVD-Audio disc. The *Disc Welder* products from Minnetonka Audio Software, Inc. (www.discwelder.com) support the true DVD-Audio standard for stereo files up to 192/24. (*Diamond Cut*, *Sound Forge*, *Wavelab* and others include a menu selection to convert the higher-resolution file to the CD standard of 44.1/16.)

Adobe Audition	Audacity
Cedar Retouch	Clickfix
Dart XP	Diamond Cut Productions
Depopper	Groove Mechanic
Magix	Mono-A-Mono
Noise Wizard	Popfix
Sound Forge	Sound Soap
Wave Corrector	Steinberg WaveLab
Wave Repair	Waves Restoration Bundle

These next items are not restoration software but they may be of interest to those folks doing music restoration.

Integrity (Software: Tracer Technologies)	Software review by Gary Galo
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Please click [here](#) to download a copy of this page in *Adobe Acrobat* (pdf) format.

Please click [here](#) to download a copy of the test file: *sdemo1.wav* (size is 2.2 MB).

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