

## TDL® Technology, Inc. – Case Study Number 2

### Restoration of a scratched and dirty LP

Written: 12 November 2005

Last month a client brought me an LP of 1950s cowboy music to restore and transfer to CD. Both sides of the disc had spots of what looked like grape jelly or gravy so the first step was a through washing. When it was dry, I put it into a clean sleeve.

Next, I played it just to listen to determine its condition. It showed evidence of having been played a lot and there was a rather severe scratch on the “B” side.

I copied the disc to a hard drive, as side1.wav and side2.wav, using our *Gemini XL-500ii* turntable with a *Shure M97xE* cartridge and the *WaveTerminal 192X* sound card [1]. As the first restoration step I used *Wave Corrector* version 3.2 from *Ganymede Test and Measurement* [2] to remove as much surface noise, clicks and pops as possible. The volume level of both wav files looked (using *Cool Edit* [3]) and sounded OK so I skipped the normalization step.

I separated both “side” files into individual tracks (songs), again using *Cool Edit*. I listened to each track and trimmed off the noise at the start and end and then added three seconds of silence to each start (again using *Cool Edit*).

At this point, tracks 04, 08 and 10 through 12 were still noisy. Tracks 10, 11 and 12 were especially bad because of a large scratch through them. So I used the Click and Crackle filter in *Sound Forge 8* [4] on these tracks and they cleaned up nicely.

I then copied the twelve tracks to a CD-R using *Roxio Easy Media Creator* [5], made a CD label and jewel case spine label using *Sure Thing CD Labeler* [6]. Finally, I listened to the CD and to make sure it would skip forward and backward to the desired track. Usually, everything works fine but once in a while, something goes wrong so it’s a good idea to listen.

Would other clean-up software have done as good a job? Of course. You learn to use what you have to do as good a job as possible. However, I will say that the restoration filters in *Sound Forge 8* are very good. My second choice would probably be the DeClicker filter (which includes DeCrackler) in *Noise Wizard* [7] or *DC Six* [8].

## REFERENCES

1. The *Waveterminal 192X* sound card has been discontinued but other quality sound cards are available from <http://www.tracertek.com>.
2. The *Wave Corrector* software is available from <http://www.wavecor.co.uk>. The registration fee is \$45 USD and upgrades have been free (since version 2.4).

3. *Adobe Audition* is the new *Cool Edit* and it's available from <http://www.adobe.com>. The last time I looked, *Cool Edit Pro* was still available from some of the discount companies. You could try a *Google* search.

4. *Sound Forge 8* is available from <http://www.sony.com/mediasoftware>. It is also available from other vendors at a lower "street" price. Please see Chapter 7 on Restoration Software.

5. *Easy Media Creator* is available from <http://www.roxio.com>. I used version 5 on this restoration and I have version 8 on order.

6. *Sure Thing CD Labeler* is available from <http://www.surething.com>.

7. *Noise Wizard* is available from <http://www.virtos-audio.com>.

8. *DC Six* (Diamond Cut Productions) is available from <http://www.tracertek.com> or <http://www.enhancedaudio.com>.

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