

Part 5: Computer Multi-tracking

12/08 : Mixing directly to your computer's hard drive is definitely the way to go unless you have a stand-alone DAT or burner (or a built-in device as part of your multitracker), but I have "mixed" feelings about recording virtual tracks direct to pc, whether live source or pre-recorded tracks via FireWire. Note that if you have a digital workstation interfaced to your pc, very little of the following applies. This addresses recording without any fancy hardware, using a typical home computer. A high-end gaming system is not necessary, only a minimum 1ghz, 256mb machine with 20gb or more empty space and that the machine is free of resource hogs such as viruses, spyware, instant messengers or heavy scan programs like Norton. In Windows, Task Manager will show what's running all the time and how much it eats. Msconfig allows you to turn them off.

There are several advantages of recording direct through your sound card to a multitrack software app like CuBase or CoolEdit aside from the obvious luxury of pretty much an unlimited number of tracks. The end product will not have ANY degeneration since each track is born digital and every process from there is digital. Even your give-away cd copies will sound just like the original tracks. Also, it's not mandatory that instruments be amplified as there are lots of amp/cabinet and stomp box simulator programs available that do a pretty decent job. Too, you don't have tape transfer time since the tracks are already on your hard drive (although in all honesty the extra time it takes to mix these tracks offsets this and then some). Another advantage is being able to achieve a level of perfection on every track that isn't possible with a live mix, although as mentioned I prefer the "feel" of a live mix, complete with all its flaws. Lastly, you don't have to buy tapes. Not that it's a big deal, but they *are* on the endangered species list and kinda hard to find these days.

The disadvantage to all this is that a "live" mixdown is not possible. Each track needs to be modified until it finds its own sonic spot relative to the other tracks. The "undo" button will be your best friend, and once you get all tracks tweaked, you'll probably have to go back to the first one again, simply because by then the overall mix will have changed so much that your first adjustments no longer apply. It's not as bad as I make it sound, in fact it's kinda fun. The "preview" and "undo" functions inherent in all recording software take the stress out completely because you can fix any screw-up by going back a step, or worst case, just close without saving and re-open. Also, you don't have that wonderful feature lovingly known as "punch in/punch out". Copy/paste simply does not compare.

So, with that being said, here is a song done entirely in CoolEditPro with no amplification or outboard gear whatsoever, except I did use my Fostex as a mini-mixer for 3 mics on the drums (snare, bass and overhead). The guitars and vocals were plugged directly into the sound card:

<http://www.minornotes.com/soitgoesversion2.mp3>

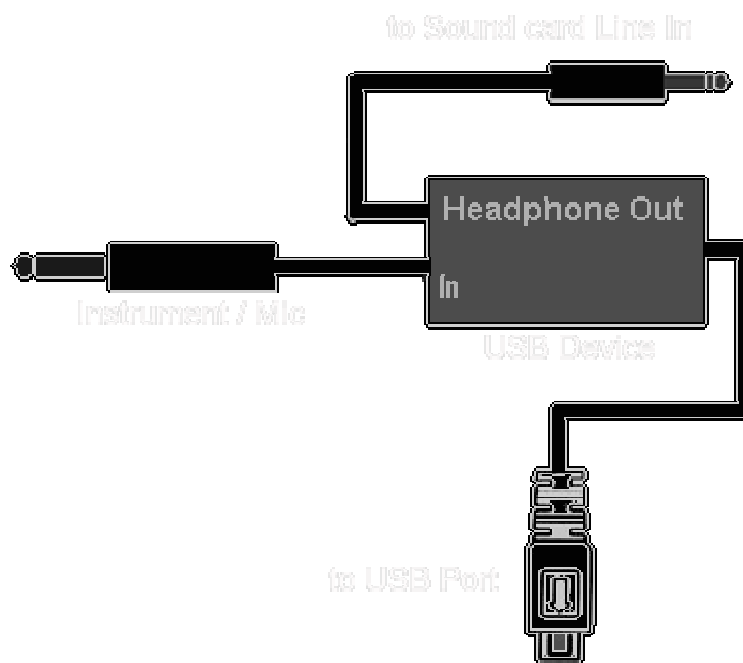
All generic sound cards use miniature (1/8") phone jacks, so since just about everything else uses 1/4" phone plugs, first thing is buying or making a 1/4 mono to 1/8 stereo adapter, and the reason it should be stereo is because even though the L and R are the same, later in the process those channels can be imaged, so each track has its own stereo imaging rather than imaging the final mix. With a mono L and R you can also pan tracks. Or, you can always copy one channel and paste it to the other for the time being, but that gets old quick.



the tip to tip/sleeve need to be parallel rather than in series to prevent cancellation

First step on this song was to record the drums. Even with the 4-tracker I usually do it this way so the tempo is consistent (although I do tend to speed up a little towards the end). I tried a click-track once or twice, but for me it's better to just play along with what's in my head.

Next was guitar. I used a USB interface called "JamLab" I got from Musician's Friend on sale for 20 bucks, and it works surprisingly well for the cost. At first I couldn't get it to record from the stomp box plugins that came with it. It would record dry, but have FX through the headphones and speaker. So I just ran a line from the device headphone out to the sound card Line In, and it works perfectly.



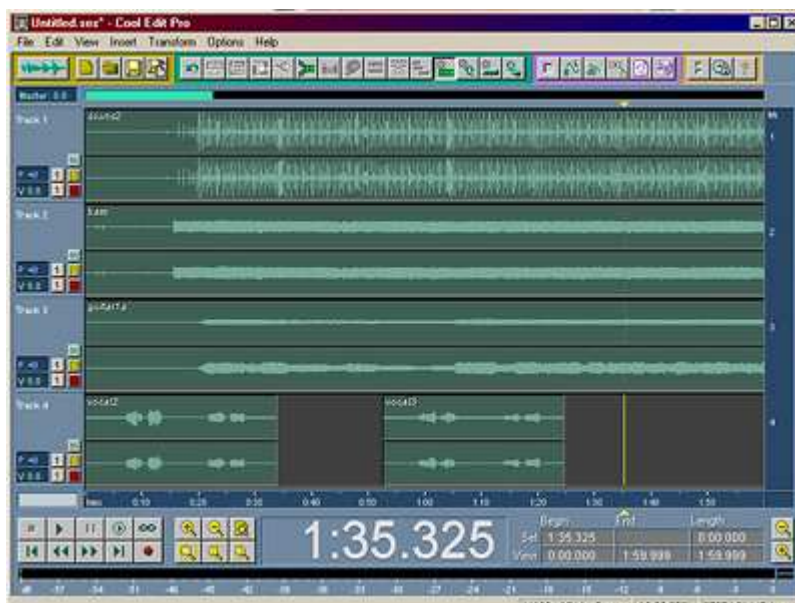
The virtual FX plugins sound surprisingly good. I figured since this is not a high dollar model the plugins would sound cheezy, but with a little tweaking it even makes my bargain basement Epiphone sound ok.



the JamLab device came with 10 pedals and lots of presets that can be modified and re-saved

Next I did the main vocal track. Simply plugged a mic into the sound card. Same for the bass track. After that it was just bells and whistles. Added some backups and another guitar and that was it. Funny that recording the tracks would take the least amount of time in this process.

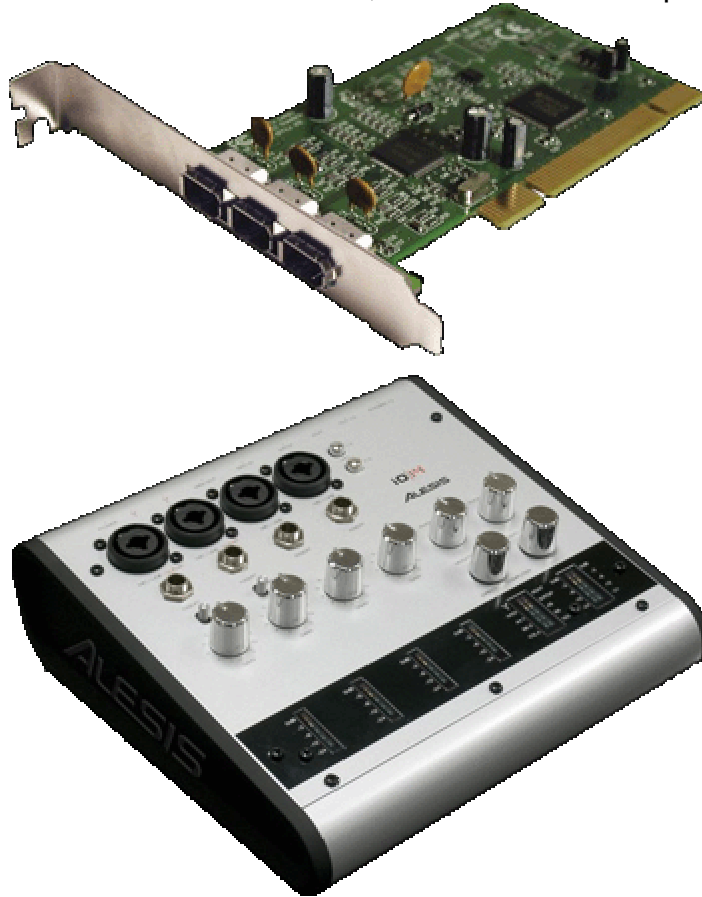
Now we have all the raw tracks, and I guess it doesn't much matter where to start, but for this song I tweaked the drum track first. CoolEdit has 2 screens, the multitrack layout and a screen for editing the individual tracks.



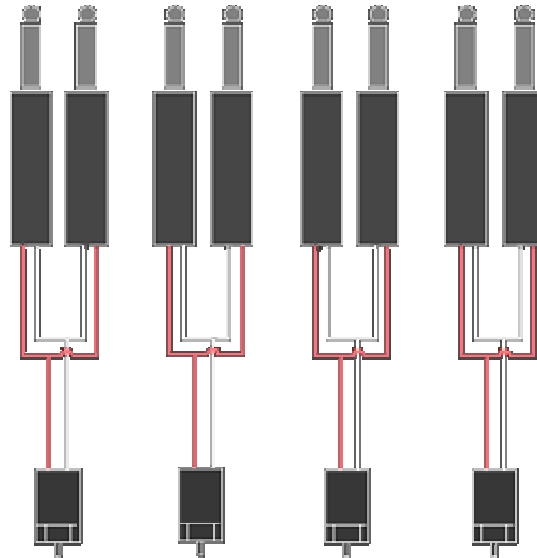
There's lots you do with a track in screen 2, but the essentials include EQing the track, setting the overall volume, and imaging the L and R (usually by adding a 3 to 6 ms delay to one channel or the other). If you want compression it's probably better to do it before setting the volume instead of after, and any effects are probably better added after EQ instead of before. After each change it's a good idea to toggle back and forth between the edit screen and track layout to hear what the changed track sounds like with all the others. If it sucks, toggle back and hit the "undo" button. Once familiar with the software, it's pretty much just common sense trial and error stuff, but it is time consuming, especially when you get down to subtle track changes specific to key parts in the song. When satisfied with all the tracks, just hit the "mixdown" button and the finished WAV appears in the edit screen, where you can trim the ends if necessary and save to file, which can then be burned to CD without any other conversion. With CoolEdit at least, the finished WAV cannot be converted to MP3 (if you need a compressed version for your MySpace page for example). WAV converters are plentiful on the internet and most are free. CDEX is one of the more popular ones, I

use the Nero MP3Pro plugin for NERO Burning ROM Wave Editor.

To move tracks from an existing 4-track cassette to hard drive the process is pretty much the same, except without a FireWire device you have to record 2 tracks as L and R (or L/blank and R/blank, then copy/paste to get a stereo track), then do the same thing for the remaining 2 tracks on the cassette. The problem with this is that the 2 pairs will never be in sync. In CoolEdit and similar programs, holding the right-click mouse button lets you drag a track to the left or right in its slot on the track layout screen. If you zoom in close it's very easy to line them up perfectly. FireWire interface devices are available that allow simultaneous recording of 8 tracks (or 4 stereo pairs). The cards themselves run around 20 bucks, but the mixers are quite a bit higher.



Again, you'll need adapter cables to convert the 4 RCA outs on the 4-tracker to 1/4" or XLR or both depending on the mixer. This cable I made for a Tascam 8-channel FireWire mixer/workstation for the purpose of copying 4 mono cassette tracks to 4 stereo pairs in CoolEdit:



The cost of all this can total anywhere from 0\$ to \$500 depending on what you already have and how exotic you want it to be. CoolEdit is no longer available from Syntrillium. Adobe bought it and re-released it as "Adobe Audition" for around \$300. I did stumble upon some free recording software packages, however many were Linux based. Kristal Audio Engine from Kreatives.org looks like a good one (slider bays remind me of Steinberg CuBase), although I have not personally tried it. Click the image below for a hi-res shot:

