

Understanding The DC SEVEN Spectrogram Display

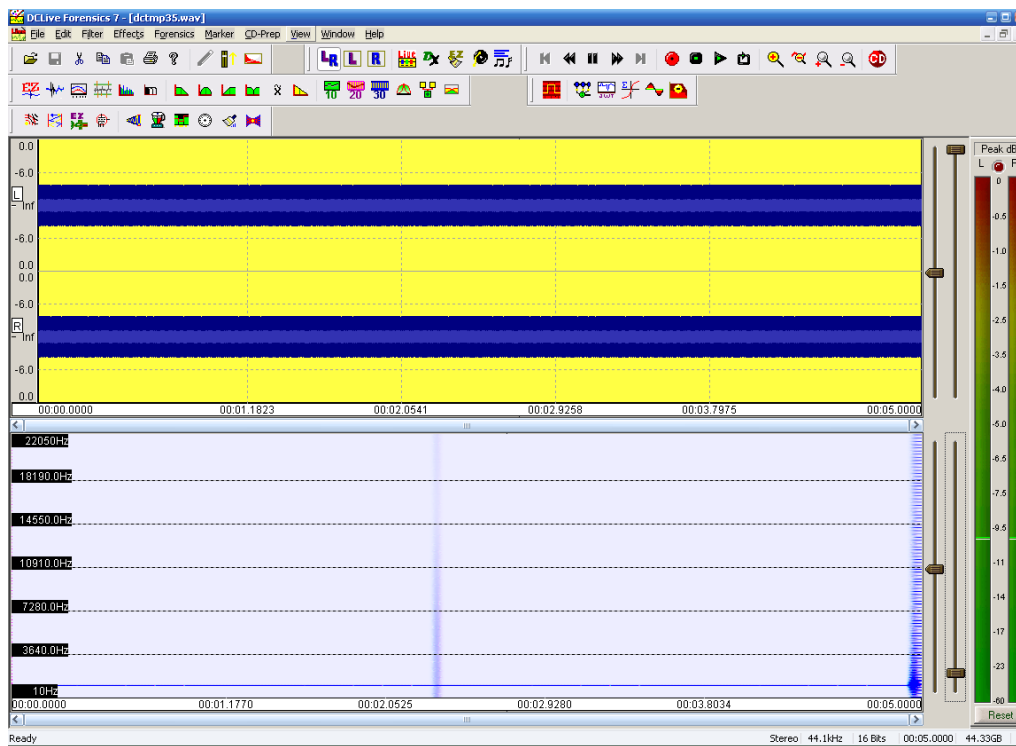
DC7 comes with a LOT of new stuff. But one of the things that is probably most unfamiliar to average users is the new Spectrogram display. It's under the Forensics menu.

Put simply, this provides a new way to look at audio. You are likely familiar and comfortable with the traditional Time Domain display used by default in DC7. This shows you the amplitude of the waveform plotted over time. If the audio gets louder, the waveform gets bigger. Simple right?

But a time domain waveform does not provide us with another piece of important information - we know nothing about frequency from looking at it. Go ahead - open up a music file and try to tell the high frequencies from the low frequencies by studying the waveform. You can't do it since there is no frequency information presented.

But wouldn't it be nice to be able to see the frequency information along with our amplitude information and our time information? Sure it would, and that's exactly what the new spectrogram does. We'll have more articles on this exciting new feature in the future, but right now one question will certainly be, "what good is it". Ok, let's see.

Have a look at the waveform shown here:



The source (top) window contains a nice friendly time domain display. In fact, this is a nice, friendly, 1000Hz sine wave. It's a single amplitude all the wave from beginning to

end - that why it looks like two bars. Now, it doesn't matter how much you study this picture, you won't be able to see the fact that there is a tiny little click right near the middle of this file. The sine wave is changed for a fraction of a second and this results in us hearing a click. A click in the real world is made up of hundreds or thousands of frequencies. Add all these frequencies together and we get that annoying "snap" sound of the classic click.

There is one in the top window, but you can't see it. It's too small and too short. It's just not visible in the time domain in an easy way. But notice what happens when we turn on our spectrogram display. It looks like there is energy not only at 1000Hz, but all the way up to 20,000Hz at one spot. This is where our click is. You can use this as a guide to help you find the click in the time domain display up top.

In coming issues, we'll continue to explore this new spectrogram tool. There's a lot to know about it!

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