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Over the past several issues we've discussed different types of synthesizers and what they can do for you in both live and studio settings. Analog, digital, hybrid, virtual analog, and modular synths all have their merits, and in fairness, their place. Sometimes the right tool is right for the right job, no different than choosing a Marshall or Fender, a Strat or Les Paul, or recording on analog tape or digital audio workstation (DAW). There is one place we've yet to visit though, a specific application of digital synthesis -- computer-based synthesis. In this instance, the computer takes care of all the 'work' in the form of number-crunching what the synthesized sound ought to sound like. The result is sent to your computer's sound card and voila! Welcome to synthesis in the modern world.

If you have any familiarity with computer-based recording you'll know that people these days jump on new cool digital effect plugins like a fat kid on a Smartie™. They are popular and fun to explore. Synthesizers also come in plugin form, and in fact often they come free bundled with audio recording software. Synth software can also exist as a standalone application with the resulting sound either being sent directly to your speakers or whisked about inside your computer to other software for further processing via one of the many software protocols available for doing so. In either case the result is the same, your computer becomes the synthesizer interface. What kind of synthesizer? Well technically, seeing as it is a digital computer creating the sound, it is of course a digital synth. In fact, the line between DAW-based synthesizers and standalone digital synths or virtual synths is blurring nicely thank you. Further, with companies producing standalone MIDI controller keyboards specifically designed to do nothing else than connect to your computer and control these various 'soft synths' as they're also called, the line blurs further still. Some synth plugins literally emulate classic machines of the past. If you're looking for the sound of a Minimoog, a PPG, or a DX7, these are all available as plugins to be programmed on screen and played remotely from a MIDI keyboard.

Not all plugin synths are setup to emulate classic gear though. Many are actually elaborate construction sets that allow you to basically build your own synth from the ground up. You can incorporate numerous classes of synthesis resulting in a very modern form of modular synthesis. Often with these software packages you have access to user sampling, physical modeling, granular synthesis, and all sorts of other spectral enhancement processes that frankly seem to multiply like clumsy bunnies on prom night. One product available today even uses an audio signal as its control-signal source so that you can make any instrument sound like a synth. This whole new area of synthesis has opened up a lot of doors sonically speaking into territory previously unknown only a few short years ago. Many of the parameters will be familiar to you, like filters and LFOs; many will not, like grain envelopes and MIDI-clockable spectral morphing thingamajigs. Whatever. With new technologies comes new terms of engagement. The new frontier if you will.

With any new frontier comes a vast supply of new and marvelously exotic riches... once you pick through the marvelously exotic refuse. With software companies opening up the source material for writing plugins for their particular program format, people are writing synth plugins as hobbyists and distributing them over the Internet. Word of warning - not *everyone* is a good computer audio coder. Ahem. Speaking of which...

What *about* quality? Can a synth plugin sound as good as a real synth? In short, yes. Remember though, that like effect plugins, audio hardware, discount haircuts, and everything else you can think of, you get what you pay for. Not all computer code is created equal. It's funny how some people will pore for hours over the sonic differences between brands of compressors or synth workstations, but assume that all plugins are essentially the same. I mean, it's coming out of a computer..right? Its gotta be good! I heard it on the net. The fact is that like anything else, the quality is in the work done. Some are very well done indeed and for the moment at least, represent the future in sound design. Next time around we're getting a little more ... esoteric.

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