

The following appeared in edited form in Muzik ETC in Graham Collins' Synthesizer Basics column. All right reserved.

One of the true advantages of working with synthesizers, is that you have so many options for experimentation. Obviously, the more 'things' there are to twiddle on your machine the more room there is available for trying new and different things. In our ongoing series on practical applications for synthesizers we've been looking at 'tricks' that may get you out of a creative bind or rut. This month is no exception. In addition to an older synthesizer however, this month you will require some type of computer-based digital recording workstation (DAW). You may instead be able to use either a stand-alone digital audio recorder (should work) or a reasonable quality multi-track tape recorder (might work), but this you'll have to try for yourself. Ideally, the synthesizer you use should be modular to some degree though as you will see, so long as you have access to a computer-based DAW, any synth that has even a control voltage (CV) input for filter cutoff control will ultimately work. In that particular case, you'll have to follow along and get the gist of what I'm saying here.

What we're going to do is coax a recording device (DAW) to essentially become *part* of the synthesizer itself. What's most interesting is that the recording process isn't going to even record audio-range signals, but instead *sub-audio*. What's that you ask? Is it *designed* to do that? Well, yes actually. This is why I suspect an analog tape-based system might not work as well... or at least, as stably as a digital system in the sub-audio range. Please feel free to correct me. (A mention in the next column to the first one who emails me a short wav file proving me wrong!) Ok, let's get on with it then!

Set up your DAW to record from an input and arm the track. Now, take a standard patch cable and run it from the input on your audio interface or mixer to the voltage output of an LFO (slowish setting) on your synth. (Oh yes, watch levels please and yes that's right...if something breaks I'm not responsible. Phew! There I'm off the hook.) Now, if you set the track to monitor on the speakers you'll hear, er.. nothing. A typical LFO with slowish setting will be oscillating in the sub-audio range remember? Ok, make sure you're getting a good signal. You want a nice solid signal just like recording audio. Now, start recording and let it run for a minute or so. If you like, go over to the LFO on the synth and play around with the speed setting. Try cranking it up and see if your LFO goes up into the audio range. What's that? It does? Nice. I hope you see where we're going with this folks.

Ok, now the tricky part. Re-route the audio output from the synth to an audio input on the mixer. Assign the track you've just recorded onto to a separate output buss on your mixer or interface and route that to the filter cutoff input of your synth and make sure that if there's an input level amount on the synth that it's turned up accordingly. Now, without touching the DAW, play a couple of notes on the synth to make sure that you're getting some sound on the monitors. Adjust the cutoff frequency on the synth to about halfway or so. When you're ready, hit play on the DAW. Whazzat? Huh? It...it can't be? but...itit IS!! Your DAW is now making your synth go WAHWAHWAHWAH instead of the LFO! Sometimes epiphany comes in the form of a single cable full of a throbbing fluctuating voltage. Life is good. Remember, if your synth ONLY has a voltage input you still get to have fun too! Try hand-drawing sub-audio range waveforms and make loops directly on your DAW and route them to your synth's filter input. It works just fine. Nifty.

That's it. The world has just come back from the hellbound path it's been on since the dawn of human history. Do I have to spell out the ramifications? Hmm... let's see, you have a few inputs and outputs on your DAW, a modular synth with at least a few inputs. Yikes! You see the possibilities I'm sure. Now think of the power of the DAW. You can see the control voltages as actual waveforms. Edit them. Make little loops. Line them up. Make pretty pictures that are in sync with your band's drum tracks. Whatever! Have multiple control sources that you can cut and paste freely and be the creative little devil I always knew that you were. I was able to tell visually that the LFO on my Korg MS-20 needs a bit of calibrating.

Ok, time to back up for a second. NOW you see why a computer-based DAW is the better tool to use in this instance. Using one of the myriad stand-alone digital recording systems *should* work, but you will lose some of the flexibility of visual editing. Tape-based units may as discussed work just fine, but

there may be issues. Now that I think about it though, a tape-based recording system would let you have a lot of fun with tape splicing and manipulation. Sub-audio Musique Concrete. Sweet.

Graham Collins is an Ottawa area composer/synthesist for film and media. His website is www.pongthrob.com, and he can be reached at graham@pongthrob.com Got some of your own stupid synth tricks? Send 'em in!