

# Applying Technology

BY TED ROUNDS

**H**ow many remember the age before personal computers? How about synthesizers the size of your father's Buick with dozens of patch cords and a mad scientist sitting at the keyboard? How about the Rhythm Ace? I remember wondering if any of that technology would be of any use to me (and deciding I was doing just fine without it). I also remember thinking that these machines were going to take over the world and replace most of human activity à la Arthur C. Clarke.

Then one day in the mid 1980s I heard a recording of an orchestral piece that was created by a single musician using a Synclavier. But instead of bemoaning the death of the symphony orchestra—it still didn't sound like a real orchestra—my only thought was, "How did he do that?" Now my computer fits in a book bag, my synths are the size of a textbook, my hard drive holds more than ten filing cabinets worth of stuff, and I have a bare-bones recording studio in a spare room. How did this happen?

Once in the late 1980s, one of my students gave me a cassette-tape recording of himself playing clave—something other than a metronome with which he could practice congas. He had recorded himself playing 30 minutes of clave at a single tempo. How on earth he did that was a feat in and of itself! The obvious questions were, "What if you want to practice at other tempos?" and "Don't they have machines that can do that?" Both of us just shrugged.

Later, I spied a drum machine in a music store and asked for a demonstration. I also watched a demonstration of a keyboard workstation that had a sequencer on board. When it was explained to me that this workstation was just a beefed-up drum machine with 16 channels instead of one, and that it played sounds other than drums, I was off and running. The capabilities of these early workstations were quite limited compared to what is available today. So the next logical step for me was to investi-

gate the sequencing capabilities of computer software.

## WHAT TECHNOLOGY OFFERS

Not long ago I had the opportunity to perform a piece for clarinet, saxophone, and a multi-percussion setup that required half of the stage. Because of the logistics of rehearsal space and the many other commitments of the musicians, we were going to have to perform this piece with minimal rehearsal time. The solution was to sequence the piece using the sounds of the various instruments and record it so the players could practice on their own while listening to the other

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parts. I made three different sequences for each player: the first was tutti as a reference. The second was Music-Minus-One style but with the "missing" part slightly audible. The third sequence was another tutti performance but at a slower tempo.

There is another application of software sequencing. Have you ever tried to play along with recordings of rhythm sections to learn jazz improvisation? They're too fast, too slow, in the wrong key, or you happen to be a rhythm section player and don't want to listen to somebody playing your part. The books that accompany these recordings always contain a list of standard tunes that are not included on the CD. How are you going to learn to play Coltrane's "Giant Steps" if you can't find a rhythm section that can play it with you? You sequence it, that's how.

Now you can play along according to a tempo slower than light speed, too.

Practicing polyrhythms presents another challenge. First you do the math and then you fake it, right? While there is no substitution for understanding how the rhythms relate to each other, I've found that progress comes more quickly if I can hear the finished product and play along. Enter the software sequencer again. This has come in handy on several occasions. I am often asked to help colleagues figure out difficult polyrhythms as if I could just sight-read all these things perfectly. Then there is the matter of coaching other players until they can

do it as well. It is simpler to hand them a recording of the correct performance of the rhythm so they can practice it themselves.

These days there are programmable metronomes that can play in several time signatures. One thing most metronomes cannot do is play in mixed meters. A drum machine can store as many time signatures with as many different subdivisions of the measure as the onboard RAM (memory chip) will allow. These patterns can be chained in any order, making it much easier to practice

complex time signatures that may change every few measures. Ever wonder how accurate your metric modulations are? With a drum machine it's a snap!

## TOWARD THE FUTURE

So how many drummers does it take... None, they have machines that can do that. Strike a nerve? I'm sympathetic, but only to a degree. It wasn't that long ago that auto makers made the move to robotic welding on the assembly line. Let's face it, a lot of the work we used to do was comparable: laying down tracks in the studio with nothing other than a click track to play with, playing one groove over and over in between separate takes of the intro and the tag, and then the editor would splice the tape. Next day, same thing.

That method of recording was chosen

as a matter of economics: less players in the studio making mistakes during someone else's perfect take makes fiscal sense. How about finding a player that never makes any mistakes—like a sequencer? Record companies pay attention to how many people buy records, and the buyers are not partial as to who the session players are, or in this case, what they are. People who want to hear a live band will pay money for it, and those who don't care are looking for a cheaper ticket. Granted, little black boxes don't have much stage presence, but if the audience came to see people singing and dancing on the stage the musicians would be out of sight anyway. I have a colleague who recently went to a musical on Broadway. He was really disappointed with the electronic performance in the pit. Meanwhile, the rest of the audience gave the show a standing ovation.

If it only takes a handful of highly skilled musicians to program sequencers, samplers, and electronic instruments to do the job of a large ensemble, then why not learn those skills? I know percussionists who play shows with an electronic instrument and a sequencer. It saves space in the pit and is easier for the sound crew to control. The sequencer may only get used sparingly during the show to lay down a groove while the player's hands are freed up for playing other parts of the score. At least these percussionists have found a way to stay in the game instead of losing the gig to a keyboard player.

We always have to upgrade our skills: armies of calligraphers have learned notation software, candidates in orchestra auditions have to play Bach with four mallets, educators are sequencing accompaniments for their students, and I know plenty of welders who don't work on assembly lines. Tools don't make the music, musicians do. And the musicians who know how to use the tools get the gigs.

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