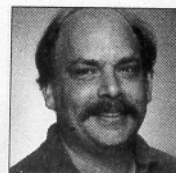


DRUM MACHINE PROGRAMMING



NORMAN WEINBERG

A DREAM SAMPLING SESSION

IO MANY MUSICIANS, USING factory synth sounds on a project is a sin of the highest magnitude. The theory goes: If you didn't design the sounds yourself, then you're just borrowing someone else's creativity. Similarly, using the drum and percussion sounds that came with your drum machine (or the newest multitimbral sound generator) is exactly like using the factory sounds in your synth. If you really want to create something distinctive, something fresh, you'll have to sample the drums yourself!

One of the most rewarding aspects of being a percussionist is the vast amount of control the player has over the timbre. Most musicians have a solid concept concerning the tone quality of a piano, violin, flute, or trombone. In other words, the sound of the flute is something that just about everyone can get into their mind's ear. Percussion instruments are not so rigid. What is a good hi-hat, wood block, tambourine, or snare drum sound? These instruments are far too versatile to pigeonhole.

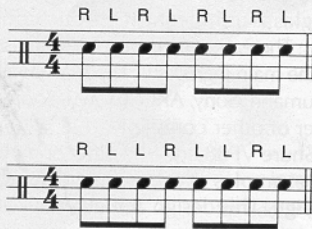
Snare drums (as well as many other percussion instruments) come in all sizes, and materials. An 8" x 15" maple-shell snare is not going to sound anything like a 3" x 13" stainless steel instrument. Both are snare drums, but each has its own truly unique sound. For this reason, most manufacturers have concentrated on offering an immense assortment of these drum sounds in their machines. But a single snare drum can provide hundreds of subtle shadings. What if a drum is struck by the tip of the drumstick, the butt of the stick in the center of the head, slightly off center, or at the edge?

Far more subtle variations are obtained when a drum is struck by the left hand or the right hand. Since most drumsticks are constructed from a natural raw material (wood), very few of them are perfectly matched. In addition, drummers' strokes will not be perfectly matched between the hands. Another variation in timbre occurs when the drum is struck softly or with a lot of power. Yes, the volume changes, but the tone color changes as well.

Perhaps the secret is to sample several strokes from the same instrument (this is something that drum machines seldom offer). Then the artist can combine the resultant timbres

in a manner that is consistent with the way a drummer performs. Contact a local college and speak to the band director or percussion instructor. Ask if you can hire a student percussionist for a few hours to perform on some of the school's instruments (you might even be able to swap an hour or two of the performer's time for a lesson in digital music-making). A good percussionist will have a fantastic variety of sticks, beaters, and mallets that can be used to coax different sounds from the instruments.

Snare Drum. Find the drum with the sound you like best (a good music department should have several to choose from), and ask the performer to play several notes at different dynamic levels. Once you've got these sounds in your library, you can use the different samples for dynamic contrasts. Instead of triggering the same sample at different velocities, your ghost strokes, normal strokes, and accented strokes will be distinct. Ask the performer to play notes exactly in the center of the head, then about an inch from center, and then about two inches off center. Be sure to get samples of strokes played by each hand. If you don't believe that using different stickings will create a different sound, just ask any drummer to play these two measures. Close your eyes and compare.



Toms. When sampling toms, use the same techniques mentioned above: right and left hand samples at different volumes and at dif-

ferent striking points. Don't forget to sample rim shots on the toms; these can be very effective. When you sequence fills, be sure to consider the sticking patterns your computer "drummer" will use. You might even try programming the same rhythm pattern with two or three different sticking combinations. Listen to each of them in the context of the tune and see which has the better feel.

Bass Drum. Like all drums, a bass drum's pitch changes with the dynamic level. However, the beating spot is rarely altered (due to the use of the pedal). Again, sample several hits at various dynamic levels. Some drummers tend to push the beaterball of the bass drum pedal into the head during the stroke. This too creates a subtle change in the timbre. While you can't get right and left hand samples for the bass drum, you might be able to find a performer with a double pedal. This is a special piece of hardware that enables a drummer to play a single bass drum with the left foot as well as the right. Each beater of the double pedal offers a slightly different sound. Together, they can make perfect samples for aggressive double bass passages.

If you have access to a DAT machine, it's wise to record the sounds to DAT first. This can save you a great deal of time and effort. Simply record several takes of each sound to DAT, listen closely for undesirable artifacts or background noise, pick the best of each category, and then record them into the sampler.

Try these methods, and you'll likely be well rewarded for your efforts. If you like the results, you can plan another session to sample cymbals, accessory percussion instruments, ethnic instruments, and sound effects. Next month, we'll get back to grooving with some shuffle patterns.

Norman Weinberg teaches percussion and electronic music at Del Mar College in Corpus Christi, Texas. His latest project is establishing the World Percussion Network for the Percussive Arts Society.