DRUM MACHINE PROGRAMMING

N O R M A N   W E I N B E R G

GOOD OL' ROCK & ROLL
INDIVIDUALITY: PART 1

WHEN DRUMMERS GET TOGETHER TO TALK SHOP, THEY OFten discuss performance techniques that require strong physical or mental chops. Common topics of discussion are drop triplets, polyrhythms, odd meter playing, and drumming backwards. These special techniques are important to know and fun to perform, but the truth of the matter is that a very large percentage of drumming is nothing more than laying down a basic rock beat. So how can you make a vanilla rock pattern distinctive?

Take a look at the simple two-bar phrase in Example 1. This pattern has been played by every drummer (and most likely every drum programmer) on the planet! Yet if you gather 50 drummers in a room and ask them to perform this simple groove, you'll most likely hear 50 different versions. Granted, the performances won't be drastically different from one another (after all, the notes are given), but each will possess a slightly unique character. Since the black spots on the page are set in stone, what other factors can be isolated and adjusted to create an individual feel?

Timing. One of the most important factors in creating an individual groove is timing. If you rely only on the chips inside your drum machine to determine the timing, the groove risks sounding sterile and lifeless. Drum machines and sequencers have extremely precise clocks, and can perform with much more rhythmic accuracy than a real drummer. Perhaps it's the timing inaccuracy that creates a feeling of individuality.

Playing ahead of the beat or behind the beat is much different than rushing or dragging. As a drummer shifts a beat (or beats) to a different location within the measure, the actual tempo doesn't speed up or slow down. Instead, the notes are simply placed a little early or a little late in comparison to other notes in the measure. Figure 1 illustrates the "time is a circle" concept. In the figure shown, beats 1 and 3 are exactly at the top of the circle, while beats 2 and 4 are a little to the right. Imagine a watch hand moving around the circle (clockwise, of course) at a consistent speed. Notice that the backbeats on counts 2 and 4 are going to hit slightly later than the other beats. The pattern isn't dragging,

Fig. 1. The "time is a circle" concept. Here, the backbeats fall slightly behind the beat while 1 and 3 are dead on the money.

though, because counts 1 and 3 are in their normal position.

To hear how this subtle change can make a big difference to the groove shown in Example 1, time-shift the notes that fall on these two beats (snare drum and hi-hat) one or two ticks after the beat. If your drum machine has a coarse timing resolution — 24 pulses per quarter-note, for example — the change will be quite obvious. Machines with higher resolutions are capable of creating a much more sensitive effect. If you use a software sequencer with extremely high resolution, you can time-shift these notes as much as 20 to 40 ticks without it sounding too far off.

You might try several experiments with different instruments playing ahead of or behind the beat. What is the musical result if you keep the hi-hat dead on while the snare drum attack is slightly early? Can you enhance the effect by playing counts 1 and 3 ahead of the beat and counts 2 and 4 behind the beat? Does it make sense to keep the hi-hat steady while the drums constantly play ahead or behind? What happens to the groove if the drums play in the center of the beat and the hi-hat is consistently early? Can you hear a difference in the timing, or do certain beats sound thicker than others?

To get an honest appraisal of this effect, you should listen to the altered drum pattern along with an entire rhythm section. Adding a simple bass and keyboard track should give you enough information to judge the results of your experiments. You might want to explore these changes with a quantized rhythm section or with one that bends to the timing of the drum machine. Either way, you're bound to hear some interesting modifications to the groove.

Balance. It's been said that one of the primary differences between rock and jazz drumming is the balance (or mix) among the various instruments that comprise the drum kit. Jazz drumming places a strong emphasis on the cymbals, while rock drumming focuses on drum sounds. Every drummer has a particular concept of the balance between instruments. Some play with a very strong hi-hat, while others play the hi-hat so softy (except for accented notes) that it is barely audible. Once you've programmed Example 1 into your drum machine, adjust the output of each voice with the volume controls of the drum machine or with your main mixer. If the snare drum is the strongest instrument in the pattern, the groove will seem more repetitive and stable. If the bass drum is the strongest voice, then the pattern might take on a more lumbering feel, as each note reinforces the meter.

Next month, we'll talk about dynamic alterations that can be made to each individual note, and see how the timbre of the drums and phrasing (yes, drummers can phrase!) affects the feel. ■
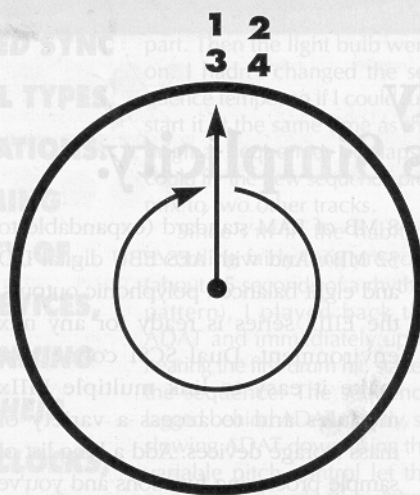
Ex. 1. A simple rock groove.

Norman Weinberg has lived in Corpus Christi, Texas, for 13 years. He still doesn't own a pair cowboy boots.