

# DRUM MACHINE PROGRAMMING



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

## GOOD OL' ROCK & ROLL

### FINDING YOUR INDIVIDUALITY, PART 2

**L**AST MONTH WE LOOKED AT A FEW factors that can help spice up a vanilla drum groove. That discussion focused on timing and the balance of the individual instruments within the drum kit. This month we'll be covering a few other factors that can have a profound impact on your drum programming.

**Dynamics.** In addition to the overall balance of the instruments (*i.e.*, the snare drum is louder than the hi-hat), the relative volume of each individual stroke is critical to a great groove. Good drummers work long and hard to hold a cymbal's pattern steady while they improvise on the snare, bass drum, and hi-hat. This is not to say that every note of the ride cymbal's pattern is the same dynamic; one of the primary characteristics that identifies individual drummers is the *feel* of their cymbal patterns. As shown in Example 1, a steady eighth-note pattern will sound drastically different when played with fluctuating dynamics. In the example, dynamics are weighted on a scale from one to ten (one is the softest). Try programming these measures and listen to how different they sound from one another.

This same experiment can be performed on the drums too. Check out the dynamic relationships in Example 2. For further enjoyment, mix and match the hi-hat and drum patterns. This should result in four slightly different feels for the exact same rhythms. Since MIDI can handle up to 127 degrees of velocity, the relative numbers in the examples can be made to sound more subtle or coarse, depending on your tastes.

**Timbre.** It's always a good idea to match your drum timbres before you do any actual programming. If you're interested in programming a hard-driving tune, you'll probably want to choose drums with lots of punch and full-bodied sustain. In general, the toms should be

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matched so that their tone quality is similar.

The days of playing an entire passage with the exact same drum sound are dwindling. Back in the dark ages (oh, say, before 1988), drum machines and sound generators always triggered the same sample regardless of the dynamic. With today's machines offering such a huge variety of drum sounds — combined with so many different methods of control (filter adjustments, nuance controls, and velocity switching, to name a few) — there aren't too many reasons for making each stroke sound the same. Unless, of course, you're a techno artist.

Critical listening will prove that drum and cymbal timbres change in relation to the player's dynamics. Oftentimes, as a drum is hit harder, the timbre (and pitch) tends to change. In the upper reaches of volume, the initial attack contains a good deal of distortion. Cymbals are ripe playing fields for timbral experimentation. Drummers will often play accented notes on the hi-hat so that the shaft of the stick catches some of the cymbal's edge (this technique is also used by some drummers for open hi-hat strokes). Unaccented notes are often played with the tip of the stick on the flat surface of the cymbal. If you trigger the exact same sample for both accented and unaccented notes, this tonal difference will be missed.

Acoustic ride and crash cymbals are treasure

chests of tonal variety. When programming cymbals, play around with the controls on your drum machine, sampler, or sound generator. Try to create subtle differences that can be controlled by MIDI velocity, or start getting down and dirty with your sequencer's continuous controller data.

**Phrasing.** Yes, drummers can phrase! On most musical instruments, the concept of phrasing is a complex interrelationship between attack, volume, duration, and tone (as well as the relationship between pitches). Percussion instruments exhibit all the criteria listed above except for duration (unless, of course, you're playing a roll or choking a cymbal). In place of the relationships between pitches, drum set players often create phrases by working with the relationship between drums — in essence, higher and lower pitches.

Example 3 can easily be heard as a four-bar phrase for a number of reasons. The same one-bar pattern is repeated three times. These measures are followed by a bar containing a minor variation. The variation in the fourth measure tends to group the entire passage together into a single unit. In addition, the relative dynamics are such that the first two measures are closely related to the second two measures.

Have fun!

*Ex. 1 & 2. Try programming these patterns into your drum machine — first with no velocity variations, then with the suggested changes (on a scale of 1-10). Listen to the difference.*



Ex. 3. This four-bar pattern might look monotonous, but listen to the effect that the suggested velocity changes can make.

