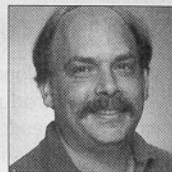


# DRUM MACHINE PROGRAMMING

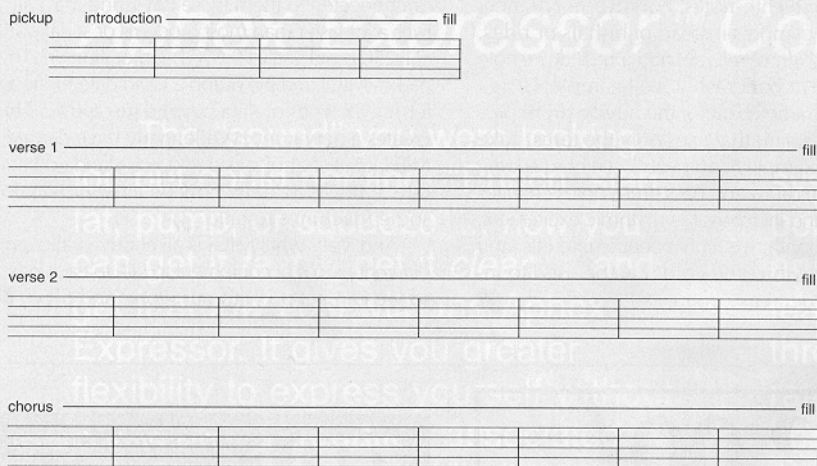


NORMAN WEINBERG

## THE FUNCTIONS OF FILLS



Ex. 1. This is a typical song structure. You'll see that drum fills are used to separate the various parts of the song.



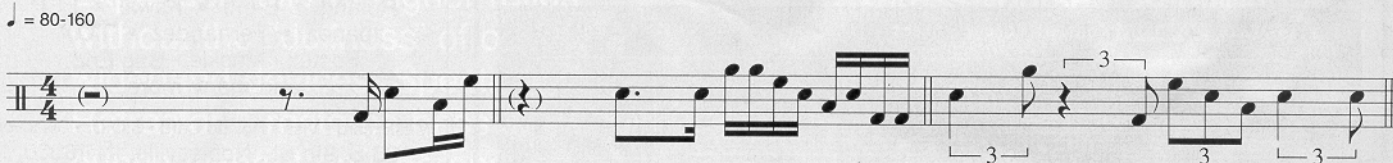
**I**N MOST MUSICAL SITUATIONS, THE drummer's primary responsibility is to keep the time, to provide a solid groove for the other musicians in the ensemble. This is the function of the "beat" — the cyclic pattern that serves as the song's heart, pumping blood and life into the tune. The drummer's second job in these situations is to play fills.

What is a fill? The term "fill" comes from the fact that the drummer is asked to fill a space in the musical fabric. When there is a break in the musical activity, the drummer fills the hole. The function of the fill is actually twofold. In addition to filling space, a fill is used to articulate the musical structure and create musical tension.

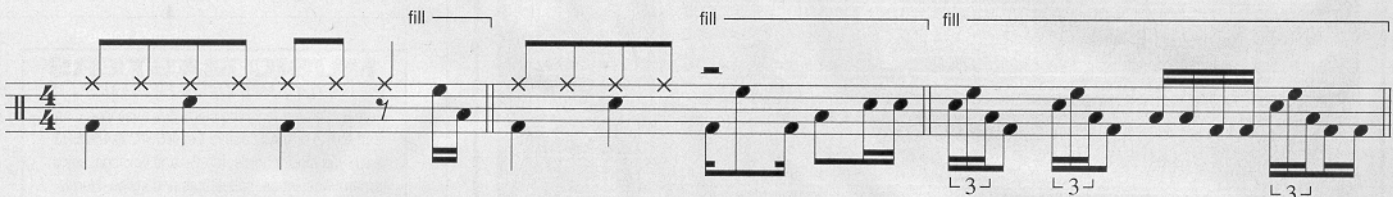
**Structural Fills.** Fills serve a vital function in the

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Ex. 2. Here are a few fills that can be used to introduce a song.



Ex. 3. Short, medium, and longer versions of fills.



Ex. 4. Bass drum hits should almost always accompany a cymbal crash.



Ex. 5. Program the first fill in this example and you'll probably get laughed off the stage. The second fill demonstrates how adding some snare and bass drum notes changes the color and increases the rhythmic excitement.



## DRUM MACHINE PROGRAMMING

structural development and forward momentum of a tune. Introduction, verse, chorus, bridge, etc., are all generic terms for different sections of a song, and the arrival of a new section is often announced by a drum fill. Example 1 shows a typical song structure. In this illustration, you'll see that drum fills are used to separate the various parts of the tune. When a drummer plays a fill before a new musical section, it acts as a signal. For the musicians in the band, the signal is structural: "Get ready to move to the next part of the song." For the listener, the signal increases forward drive by saying, "Pay attention now, something new is about to happen."

Fills create tension in the music by briefly altering the normal pulse of the music. The tension is released at the arrival of the new structural element and the return to the beat pattern.

**Pickup Fills.** Drummers often use a short fill to introduce a song. In this case, the introductory fill serves to set up the tempo and preview the motion of the tune. It acts like the orchestra conductor's upbeat to the first note. Example 2 shows a few fills that can be used to introduce a tune.

**Fill Length.** Generally speaking, pickup fills are only one or two counts long, but they can expand to a full measure. If the fill is longer than one bar, it will tend to take on an identity of its own. Once this happens, the effect of a pick-

up will be lost.

The fills during the middle of the tune can be short and sweet, or they can be expanded into little drum solos. It depends on the effect you want. If the fill is used only to articulate the arrival of a new section, one or two notes may do the trick. On the other hand, if the fill also gives the drummer a chance to come out of the background and into the limelight, it can be expanded. Example 3 shows short, medium, and longer versions of fills.

**Realistic Fills.** Let's say that you're going to add a fill at the end of a pattern. Erase any steady hi-hat or ride cymbal rhythms during the fill. Drummers (like most people on this planet) only have two hands, so when playing fills they usually stop the hi-hat rhythm. But this doesn't mean that you can't use cymbals during a fill. If your drum machine includes the "pedal" or "foot-closed" hi-hat sound, you can use it during the fill. It sounds great playing steady quarters or eighth-notes. For rhythmic punch, use crash cymbals instead of hi-hats or rides. You should almost always add a bass drum note with the cymbal crash. (See Example 4.)

One characteristic of the novice drum programmer is a fill that uses only the toms. Take a look at Example 5, and you'll see how adding some snare drum and bass drum notes changes the color and increases the rhythmic excitement.

Next month, we'll dive deeper into fills, and see how rhythm and color can be used to increase or decrease energy.

## MIND OVER MIDI

*Continued from page 116*

will make it far easier to move sequences from computers to hardware sequencers (for playing back on the road) and from "scratch pad" hardware sequencers back to software-based ones for more detailed editing.

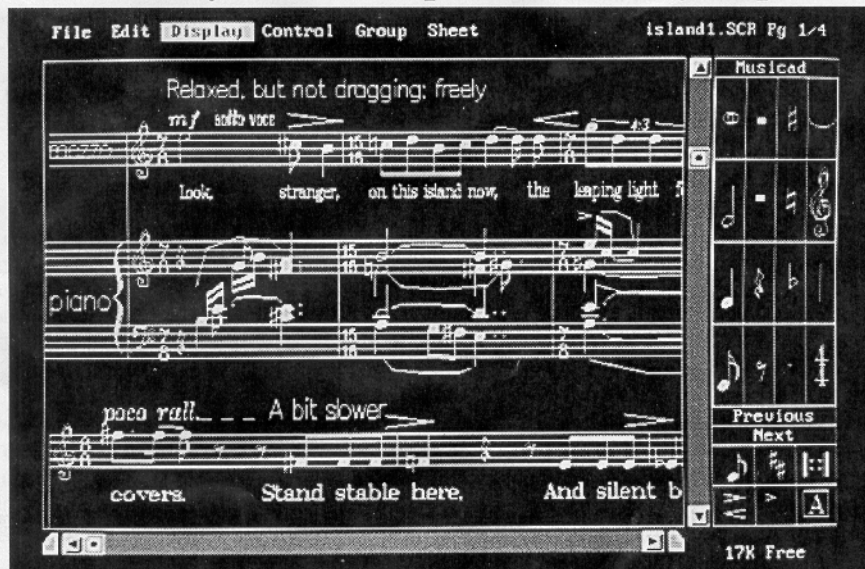
More subtle and significant is the fact that tempo maps (records of when the tempo changes and by how much) are also transferred inside SMFs, which might finally mean that dedicated timing boxes that can read the tempo from a click track can now be married more easily to sequencers. Likewise, tempo maps can then be transferred back to hardware synchronizers so that tape decks can more easily tell where they are based on bars and beats (instead of just on SMPTE times or minutes and seconds).

The other thing to remember is that a lot of computers have MIDI interfaces either built-in or connected to them these days, and that MIDI runs a lot faster than most modems or serial ports (31,250 baud versus 9,600 baud or slower). This makes MIDI and file dump a candidate for transferring all types of data beyond just music. This creates a new irony: While many have damned MIDI for its lack of speed and non-standard baud rate, it might actually now be a better way for some machines to talk.

And that's what MIDI is all about — allowing different pieces of equipment to talk to each other so we can get on with our work (and play).

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