

*You too can  
crank out persuasive  
percussive patterns  
by the bucketful—  
or rather, your  
computer can.*

# DRUMBOX

## The CZ/ST Connection

BY DAVID SNOW

A vision of things to come:

*It is morning, sweet and glorious, as sunlight filters through the pines and spreads across the rolling landscape of my estate. I am taking breakfast on the piazza, my only companions a copy of the Enquirer and a French poodle named Sasha. Perusing the "Arts and Leisure" section, I refrain from devouring my last bite of Twinkie long enough to scan the paper's review of my latest symphonic creation, "Poem of Near-Ecstasy, or At Least Feeling Real Good About Myself." The familiar hyperbole virtually leaps from the page: "...brilliant...magnificent...a work of profound, almost shocking originality and significance...worthy of Liberace."*

*Meanwhile, the PC in the music room is chugging out another masterpiece, running under my favorite algorithmic composer software, Opus 1 2 3.*

*I put down the paper and sigh. Ah, the good life...*

*While life may not be all poodles and Twinkies for most composers, the idea of*

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cranking out chart busters by the bale is appealing, especially if it makes you rich. After all, music has as much to do with process as it does with sound, and any compositional process, even an automated one, is fine if it works for you.

The use of computers to generate musical material has been covered before in **EM**, usually with an apologetic note about randomness being no substitute for talent (sez who?). But I present you here with an unrepentant opportunity to explore the netherworld of creativity: Drumbox is a program written in ST BASIC that generates, plays, and sequences random rhythmic patterns on your CZ synthesizer, and—if you're not a purist—allows you to edit them to your heart's content. It owes a debt to Tim Ebling's Random Rhythms program (April '87 **EM**), and to Lucky Westfall's June '87 article on using the CZ-101 as a drum machine. Thanks, guys. This thing works! It's fun! It's musically useful...and it's free!

### ABOUT THE PROGRAM

Drumbox has three main modules:

- ✓ The *Randomizer* generates four-part polyphonic rhythmic patterns. Each pattern is divided into two to 16 pulses (a pulse is a beat or sub-beat, depending on how you hear it). Up to 20 different patterns can be generated and stored.
- ✓ The *Editor* allows alteration of the rhythmic or pitch content of each pattern.

✓ The *Sequencer* links patterns into sequences, and chains sequences into larger units; sequences can contain up to 16 patterns, and up to 20 sequences can be stored; chains can be up to 85 sequences long.

The degree of randomness for each of the four voices in each pattern is selectable and input as a percentage; only the rhythmic placement of notes or "hits" in each pattern is randomized. The default pitch for each hit is middle "C." Once a pattern is generated, it is displayed on the screen as a grid that can be edited and played back. Once modified to suit your taste, the pattern can be stored and incorporated into sequences.

BASIC isn't the language best suited to real-time tasks like MIDI sequencers since it can't deliver lightning speed. Even so, Drumbox performs quite well, since it limits its commands to note on/off commands on only four channels. Although unison hits won't be perfectly simultaneous, the effect is a natural one given the imprecision of live ensembles.

### HOW IT WORKS

Referring to the program listing in **Fig. 1**, here's the blow-by-blow description:

Lines 80 through 130 adjust the size of the output window, initialize variables, and set up arrays that store rhythmic patterns and sequences.

Lines 160 through 290 set up the