The Doctor is IN

BY NORMAN WEINBERG

This new column will be devoted to answering questions from PAS members about the new technology in the world of percussion. Please send your questions to: Ask Dr. MIDI, c/o the Percussive Arts Society, 701 NW Ferris Ave., Lawton, OK 73507-5442. Questions will be answered by members of the PAS MIDI Committee.

Dear Dr. MIDI,

I saw a drummer at PASIC this year who was playing a single set of drum pads, but I was hearing a number of different instruments. How can one drummer play five or six different instruments at the same time?

TIM IN TULSA

Dear Tim,

That drummer was likely playing his electronic drumkit through a synthesizer that was "multi-timbral." Multi-timbral synthesizers are capable of producing different instrumental sounds simultaneously. For example, it's possible for a multi-timbral synth to play electric bass lines, piano chords, drum patterns, and saxophone solos all at the same time.

This is done by directing different MIDI messages (such as the instructions to play the notes of a C-major chord) from the drumkit to different MIDI channels. Then, the synthesizer is programmed to assign the various instrument sounds to particular channels. For example, it's possible to assign the notes of that C-major chord to channel one and then assign the notes intended for the bass line to channel two. Then it's just a matter of programming the synth to play piano sounds for all MIDI messages received over channel one and play bass sounds for all messages received over channel two.

Since the MIDI Specification calls for sixteen channels, it is possible to perform a composition that uses sixteen different instrument sounds, and be able to control them all individually. Just keep in mind that in order to do this, your electronic drumkit needs to be able to assign messages from different pads to different channels. Today's more sophisticated drumkits and multi-pads can easily do this, but some earlier units may not offer this type of flexibility.

Dear Dr. MIDI,

What the heck is "hex"? I was reading some information in the back of an owner's manual, and I'm running into all these weird numbers. What is going on here?

HECTOR IN HELENA

Dear Hector,

When dealing with MIDI messages (system exclusive messages, for example), it is often easier to use a numbering system called "hex." The word "hex" is an abbreviation for hexadecimal, and in hex, all numbers in the MIDI language, from 0 to 255, can be expressed in only two digits. Because hex operates in base sixteen, the list of numbers is: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F. After F comes 10, then 11, 12, etc. up to 1F, 20, 21, and so on.

In order to avoid confusion between decimal and hexadecimal numbers, numbers in hex format are usually preceded by the sign of "$" or use "H" or "h" as a suffix following the number. For example, the number 32 could be written in hex as $20, and 100 could be written as 60H.

Dear Dr. MIDI,

I want to get started with electronic percussion, but I don't have a pile of money laying around. How can I get going "on the cheap"?

SHAVON IN CHEYENNE

The Doctor suggests that you surf the 'net and find an Alesis HR-16. This was a very hip drum machine when it first came out and it's still pretty cool—lots of high-quality sounds and easy programming. You should be able to pick one up between $75.00 and $125.00. You'll spend less money than you would for a fancy metronome, but have a much more sophisticated box. You can work with drum machine programming and get a good introduction to sequencing, use it as a sound module now and in the future, and do tons of other cool things. **PN**