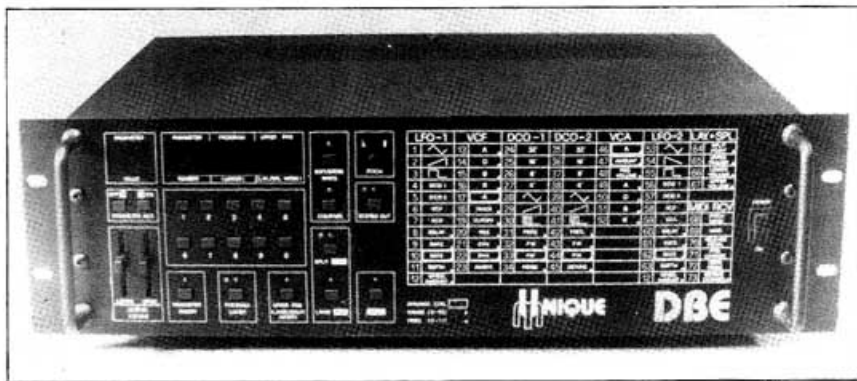


# Keyboard Report

Dave Frederick

## unique synthesizer module & keyboard controller

FOR OVER A YEAR NOW, WE'VE BEEN getting requests for a review of the Bit 99 synthesizer. The distributor of the Bit 99 up until February 1986 was Music Technology Inc., the company that distributed Crumar products. The instrument has always been manufactured by a European company



called Challenging Technologies. MTI indicated for some time that they were putting the finishing touches on the instrument and that a review unit was not available. All of a sudden, MTI was no longer in business, and we couldn't find out anything about the Bit 99. That was because it was no longer available in the United States. Unique Musical Products of Wichita, Kansas, picked up the marketing and distribution of a new version of this design in June of '86, and dubbed it the DBK. The DBK differs from the Bit 99 cosmetically and has redesigned circuit boards and new factory patches. Unique also markets a rack-mount version of the DBK called the DBE. This month we took a look at the DBE module and the DBM MIDI controller keyboard.

**DBE Module.** Although there's nothing new about the concept of the dual-oscillator digital/analog hybrid synthesizer, it is nice to be able to get one with as many features as the DBE in a rack-mount configuration. It has six voices, 75 program storage locations, and 24 split/layer program locations.

**The Voice.** The DBE derives its sound from two digital oscillators. These can be set to produce triangle, sawtooth, and variable width pulse waves. Even though all the waveforms can be produced at the same time, you can't set the level of one type in relation to the others. Each oscillator has a range of four

octaves (32', 16', 8', and 4') plus 11 half-steps, and only DCO2 can be detuned. There is a single lowpass filter, which has its own ADSR envelope, and two independent LFOs, which can be applied at various amounts to the oscillators, filter, or amplifier. The LFOs can produce either triangle, sawtooth, or square waves. Finally, the VCA allows you to set a maximum volume that the velocity-controlled ADSR amount can reach.

**Velocity Control.** The DBE allows you to control more parameters from velocity than many analog-type synthesizers. In addition

to dynamic control of amplifier and filter envelope amount, you can apply velocity to the pulse width of an oscillator, the attack segment of the VCA or VCF envelopes, or the rate of the LFOs. Controlling the LFO rate with velocity is a neat effect, but it's not very musically useful for chords or arpeggios. Any held notes assume the rate of the last note played, since one LFO is modulating them all. Unique indicates to us that this feature is mainly intended to provide a velocity-controlled rotating speaker effect. Control over the attack of the envelopes, however, gives you the ability to do really effective strings, horns, and other imitative sounds.

**Splits & Layers.** The DBE allows you to combine any two patches stored in one of the first 75 patch locations into a layer (covering the entire range of the keyboard) or a split (dividing the keyboard into two distinct sounds). Up to 24 layers or splits can be stored in RAM. The drawback here is that since the DBE is a six-voice instrument, splitting leaves you only three voices per sound, and layering leaves you three voices over the entire keyboard. This is no different than the way most other split or layered synthesizers work, but when you're starting out with only six voices the limitations become more acute. Naturally, layered sound can be more complex or more powerful than their non-layered counterparts, so you'll have to

### DBE

**Description:** Analog/digital hybrid programmable synthesizer module.

**Voices:** Six-voice polyphony. Three voices per half in split or layer modes.

**Memory:** 99 memory locations including 75 single patches and 24 split/layer patches.

**Interfacing:** MIDI in and thru, stereo 1/4" audio outs, 1/2" release footswitch input, 1/4" tape data storage input and output.

**Features:** Digital oscillators, large LED display, separate front panel upper and lower sound volume controls, front panel tune knob.

**Dimensions:** 19" x 5 1/2" x 14" (2 rack spaces), 24 lbs.

**List Price:** \$995.00.

**Contact:** Unique Musical Products, 2031 S. Seneca, Wichita, KS 67213; (316) 264-5204.

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decide whether it's worth it.

**MIDI.** Being a synthesizer module, the DBE relies on MIDI a great deal. The MIDI programming section, however, doesn't reflect this dependence. The ability to filter data such as pitch-bend, modulation wheel, release pedal (sustain), and program changes is provided, but this information is not stored per patch, so it cannot be altered from a remote keyboard. For you byte-mongers out there, Unique provides a very complete guide to the DBE's system-exclusive architecture, which should make real-time parameter control and patch dumps via MIDI a lot easier. Sound data can be off-loaded via data cassette or bulk system-exclusive dumps.

**Conclusions.** The DBE could be a good way to add some analog sounds to your system without having to invest in another set of plastic black-and-whites. It has some nice features, including a couple of velocity controls not available on most instruments. But it won't be all things to all people. We can't say that we found anything to stand up and cheer about, but we're not disappointed either. Many will find the sound of the DBE intriguing and different, and its user interface easy to work with, which will make it worth the \$995 retail price.

**DBM Keyboard Controller.** Some keyboard controllers try to be everything to every synthesizer. Some succeed, clearing your bank account in the process; some don't even come close. The DBM offers all the features that you as a keyboardist abso-

lutely have to have, plus some extras, in a well designed, reasonably priced package. It falls much closer to the full-feature end of the spectrum than other instruments in its price range.

**Keyboard & Controls.** The DBM has a 72-note C-to-B non-weighted keyboard that plays very well. It has a slightly shorter than average key travel and a not-too-hard keybed, which makes it very comfortable. Of course, the feel of a keyboard is an extremely

subjective thing. All the programming buttons are well-marked with LEDs, and the information display is large and bright. The pitch-bend and modulation wheels are placed in an odd position on the front panel just above the bottom octave. They're a little too far from the left edge of the instrument to be able to use your thumb while your fingers wrap over the edge—especially the mod wheel (this is the most common hand position for playing wheels). We found ourselves occasionally brushing the lowest keys of the keyboard with our left forearm while reaching up to the wheels.

**Programming.** The DBM front panel presents you with a programming display for each of the three zones (the keyboard can be split twice, so you can create three control areas or zones) of the keyboard. As each parameter is called up, all three zones' values for the parameter are displayed simultaneously. The patch number you're working on is always displayed. This makes it easy to see at any particular moment what area of the keyboard is doing what. For instance, if you have defined a keyboard setup with only one split, the MIDI channel LED display will show you the channel the left side is programmed to, a double dash (--) for the center section of the keyboard (since there is no center section in the setup), and the channel of the right side, something like this:

Left	Center	Right	Patch No.
6	--	12	64

This quickly shows you what channels

### DBM

**Keyboard:** Six octaves. C to B, velocity and pressure sensing.

**Memory:** 64 programs including split, preset, channel, sensitivity, and transposition information.

**Interfacing:** MIDI in, thru, two outs, 1/4" sequencer run and stop/continue jacks, pulse sync in and out, 1/4" tape storage/FSK in and out, 1/4" metronome out, 1/4" pedal, footswitch, and patch advance footswitch inputs.

**Features:** Four-track sequencer, programmable after-touch mapping to pitch-bend or modulation, programmable after-touch and velocity sensitivity levels, up to two splits per program, programmable channel data filters, MIDI merge function, programmable footswitch, pedal, and wheel controller numbers.

**Dimensions:** 40" x 15 1/2" x 3 1/2", 48 lbs.

**List Price:** \$1,199.00.

**Contact:** Unique Musical Products, 2031 S. Seneca, Wichita, KS 67213; (316) 264-5204.

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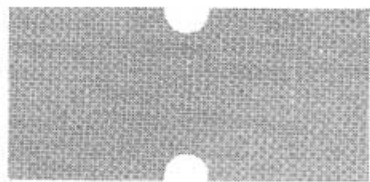
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you're transmitting over, as well as how the keyboard is split. This same type of display applies to program selections per zone and transposition per zone. Naturally, all of this information is stored in one of the 64 memory locations. Patch information includes the configuration of the MIDI in and out ports. The DBM can be used to filter and merge incoming data with its own keyboard and sequencer information, and each of the two outs has an independent on/off function. Velocity and after-touch sensitivity levels can be set, and each channel can be set to filter or pass pitch-bend, footswitch, footpedal, mod wheel, and/or after-touch data. When a patch is selected, you can have the DBM send a separate omni on or off command and a separate patch change command over any or all MIDI channels. (That's up to sixteen different program change commands on one button.) The footswitch, pedal, and mod wheel can be mapped to any MIDI controller number, and after-touch can be mapped to pitch-bend or modulation. We liked the fact that even though the DBM has just three keyboard zones, it's capable of configuring an entire MIDI setup.

**Sequencing.** Everything we've looked at so far makes the DBM a very capable MIDI system controller, but there's also a sequencer built-in. The sequencer gives you the ability to create and song-chain up to eight four-channel sequences that total up to the 4,000 note limit. Sequences repeated by the song function do not use extra memory.

Sequencer functions include real-time and step entry modes, internal or external synchronization (MIDI, clock pulses, or FSK), track copy, sequence copy, deletion of specific bars within a track, and track mix. We would like to see the ability to send information on more than four channels, but the DBM uses after-the-fact channel assignment, so when tracks are merged, all the data is sent on a single channel. Sequence data can be off-loaded to a cassette or via MIDI system-exclusive data.

**Conclusions.** We really enjoyed the DBM. Its keyboard zone/function matrix allowed us to jump in with both hands and create keyboard setups very easily. Having a multi-track, multi-channel sequencer on board, especially one with the features this one has, is a big plus. The 4,000-note limit may be an inconvenience to some, but it's more than most on-board sequencers offer. If you plan on using the sequencer in performance, you'll want to have some way of storing system-exclusive data, such as a disk-based or computer system-exclusive storage device. Tape interfaces tend to be a bit unwieldy in time-pressure situations. Controller mapping, velocity and after-touch sensitivity settings, and data filtering per keyboard zone are all excellent features. On the negative side, the placement of the pitch-bend and modulation wheels is needlessly awkward. We liked the DBM. It's not glamorous, and it's not manufactured by a world-renowned company, but it's a good design and has some very useful extras. Joe Bob says, "Check it out."

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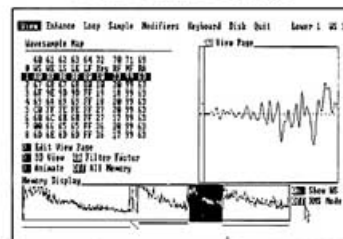
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