

Korg DVP-1 (midi)

KORG DVP-1

Dropbox

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VOCODERS EXPERIENCED a renaissance a few years ago due to the interest in space adventures such as Star Wars and Battlestar Galactica. Let's face it, you can't take a rubber alien seriously unless he has his blaster cocked and his voice processed with a vocoder. The designers at Korg must have come to the conclusion that you can do a lot more with vocal sounds than disco robot effects. Although the DVP-1 does vocoder effects, it's a bit different from the classic vocoder design, with several added features that take advantage of MIDI.

Front Panel. The DVP-1 fits in two standard rack spaces. As with other rack-mount devices, some of the controls are difficult to read or deal with. In this case, a small LED is embedded in some of the function buttons to indicate whether or not they're active. These are hard to see if they're not at eye level. A thoughtful display feature is that the decimal point that lights when a parameter's value has been edited disappears when the parameter is returned to its original value. Unlike most other audio processors, the DVP-1 has its inputs, input attenuator, and effect/dry mix controls up front where they're easy to access.

Operation. First of all, for those of you who are unfamiliar with vocoders, let us offer a brief explanation. A vocoder superimposes the timbre elements of one audio signal (typically speech) onto the frequency elements of another audio signal. If you're using a bass sound as an audio source, the vocoder will make your bass talk. If you feed a ten-note chord from your keyboard into the vocoder, the resulting output after vocoding will be a ten-note chord talking. The way the DVP-1 creates vocoder effects is slightly different. First, the only audio input signal the DVP-1 accepts is a speech signal at the input. (The 'speech' doesn't have to be a human voice. A drum machine will create some great sounds, for example.) So where does the other component of the sound come from? The DVP-1 has a synthesizer built in, whose pitch can be controlled from your MIDI instrument. This is used to synthesize the vocoded output. The maximum number of voices the DVP-1 can produce is five, no matter how many keys you play on the external MIDI keyboard. Although you don't get all the capabilities you would from a vocoder, you won't have to spend a lot of time tweaking to get a good sound. Korg has included three

parameters for customizing the vocoder effect to various situations. The breath bypass level control allows you to determine the extent to which the consonants are passed directly to the output without being affected. This is helpful, since consonants do a lot to make words understandable. The level threshold and pitch threshold permit further articulation control. Also, the overall tone color can be controlled by adjusting the formant (a boosted frequency band that is used to simulate the resonance that a mouth cavity creates while producing certain vowels). The same internal waveforms that drive the vocoder section can be played directly from a MIDI source. There are eight waveforms available including two female ahs, three male ahs, female la and loo, and a male wo. Taken on their own, these sounds are not very convincing, but once you add some delayed vibrato, portamento and pitch and amplitude envelopes, you can create extremely realistic voices. In internal voice mode, the pitch-bend controller can be programmed to affect the pitch, the formant, or both. One of the most exciting functions of this unit is called the harmonize mode by Korg. In this mode, the audio signal entering at the input can be transposed by halfsteps up to an octave in either direction. You can also program up to five notes in a chord and any incoming pitch will be harmonized to that chord. The transpositions or harmonizations track whatever notes or sounds they're supplied with. You're able to determine the transposition or group of transpositions from a MIDI keyboard. By changing the chords you're playing, you can keep the harmony parts in tune with the song. Transposing too far in one direction can cause a loss of the original tone quality, which can be either a problem or a wonderful effect, depending on your point of view. The up side produces the helium effect and the down side will have you sounding like Darth Vader. Besides the special effects potential, this mode does work well when you need to double a vocal part a third higher or lower. A transposition of this amount can be done without altering the timbre of the sound too much. The maximum transposition is an octave up or down. A pitch shift mode is provided for fattening your sound by slight detuning. Designed for monophonic use, this mode doubles, triples, quadruples, or quintuples the input and allows you to set the detune of each output pitch in one-cent increments up to -1200 or +1299 cents. Although this mode causes chorusing, a separate chorus is provided which includes programmable speed, depth, and wet/dry mix. The chorus can be applied to any of the other modes. When you're using vocoder, harmonize, or pitch shift mode, you can freeze (take a very short sample of the audio output and hold that sound with a footswitch). There's also a footswitch input for portamento.

MIDI. The DVP-1 sports an impressive MIDI implementation. Every parameter, function, and control is available through MIDI. Very detailed charts and data lists are provided in the manual. For instance, by using the system-exclusive bit map in the manual, you could assign the chorus intensity to one of the real-time controllers on your MIDI keyboard controller, if your keyboard allows controllers to be reconfigured to send various sorts of data. System-exclusive dump request information is provided so you can use a generic data storage system (if you have one) to store programs. The Korg MEX-8000 memory storage unit can be used to store up to four banks of DVP-1 information. It's also possible to assign the DVPI to a specific range of your keyboard. By programming the upper limit of the range below the lower limit, you can have the unit in effect only at the high and low ends of the keyboard, leaving the middle range of the keyboard unaffected.

Conclusions. The DVP-1 exists very comfortably in the gray area between effects processors and synthesizer modules, accomplishing both functions very well. It could greatly expand the capabilities of any MIDI setup, especially small live performance applications. Backup singers are expensive and there's no guarantee that they'll sing together. If you're working in the studio, you'll find many specialized uses for the DVP-1's effects. The vocal presets are some of the most realistic we've heard outside the sampling realm. There are plenty of parameter

adjustments you can make to get just sound you want, and the sound of the it is very clean.

DVP-1 Description: MIDI-controlled polyphonic voice processor and vocal synthesizer. Voices: Five-voice polyphonic, (four voices with chorus on). Memory: 64 programs. Each program stores all settings and parameters except audio level. Interfacing: MIDI in, out, thru. Balanced and unbalanced phone and XLR input, phone jack direct and mix outputs, freeze pedal jack, portamento pedal jack, headphone jack. Features: Vocoder, harmonize, pitch shift, and internal voice modes. Built-in chorus, noise gate at input, and freeze. 70dB signal to noise ratio. Dimensions: 17" (19" with included rack ears attached) x 15 1/2 " x 3 1/2 lbs. List price: \$ 1,095.00 Contact: Korg USA,89 Frost St., Westbury, NY 11590 (516) 333-9100.