



# KEYBOARD REPORT

## The Korg Poly-61

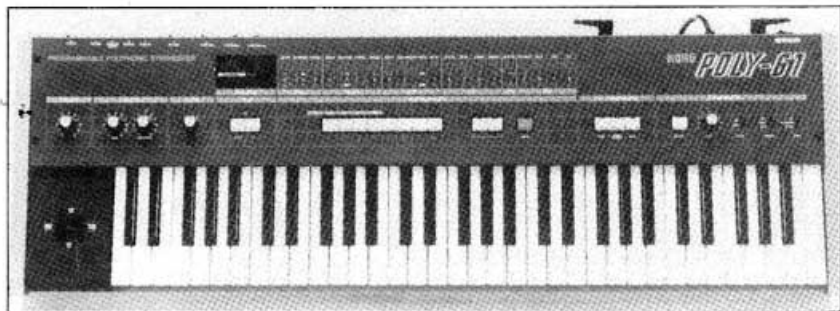
By Jim Aikin

IF YOU'VE ALWAYS WANTED a program-mable polyphonic synthesizer and never thought you could afford one, the Korg Poly-61 may very well be the instrument for you. At \$1,495.00 list, it's amazingly affordable for an instrument of this type. Korg has had to cut a few corners in terms of design features to get the price down so low, but they have managed to include a few items musicians are sure to appreciate, such as an arpeggiator and a pitch-bend whose depth of response is adjustable. The front panel has been kept simple by making some of the switches do double and triple duty, and giving the user an LED readout of the status of the controls.

**The Programmer.** The Poly-61 holds 64 patch programs, in 8 banks of 8 programs each. These are numbered 11-18, 21-28, etc., and you get to them with a set of eight pushbutton switches. A two-digit LED readout tells you what program you've got called up. To the right of these switches are another pair, labelled "program" and "parameter." The program switch must be activated for you to call up a new program. When the parameter switch is activated instead, the eight numbered switches do something quite different — they let you specify which parameter of the tone color you want to edit.

**Editing Patches.** There are twenty different parameters that can be varied to change the tone color of the Poly-61. You access these by hitting the parameter switch and then using the eight numbered switches to call up the two-digit number that corresponds to the variable you want to edit. A separate two-digit LED tells you what parameter you've selected — and to the right of this, printed directly on the front panel, is a chart that shows the choices you've got. For example, if you want to change the cutoff frequency of the filter, you select number 31. The parameter LEDs now read "31," and below this is another LED readout, green instead of red, that tells you the current value of parameter 31. If you want to change the value, you use a pair of switches labelled "up" and "down." Using these is just like turning a knob to the left or right, though it isn't quite as fast. When the value of the parameter no longer corresponds to what is stored in the memory, a red "edit" indicator LED lights up. This makes it easy to get back to where you started without having to remember a lot of numbers. You can edit as many of the parameters as you like, jumping back and forth from one to another, and the Poly-61 will remember all your new settings as long as you don't switch to another program. And if you find a new version of the patch that you like better than the old one, it's very easy to write the new one into memory. Provided that the back-panel "write enable" switch (used to protect against accidental program erasure) is in the right position, you simply hit a switch labelled "write," followed by the two digits of the program number you want the edited program stored under.

The parameter controls are digitized — that



is, they can be set only to whole number values. And for many of them, only a few values are available. Ranges such as 0-3 (for vibrato delay), 0-7 (for filter resonance), and 0-15 (ADSR settings) are the norm. This does frankly limit the amount of control you have over the sound. There were times when we wished we could get an envelope decay setting halfway between two of the available settings, for example. But it's usually possible to find a compromise value that sounds quite good, even if it wasn't precisely what you first had in mind.

For the first oscillator you can choose from three octave ranges (4', 8', or 16'), three waveforms (sawtooth, pulse, or modulated pulse), and seven settings of pulse width or pulse width modulation depth (the meaning of the setting depends on which waveform you've selected). For the second oscillator, you have a choice of three octave ranges, three waveforms (square, sawtooth, or off), amount of detuning (1-5), and interval. The interval setting tunes oscillator two to either a unison, minor third, major third, fourth, or fifth relative to oscillator one, which is useful once in a while. Using the octave range settings in conjunction with the interval settings, you can also get intervals like sixths, tenths, and twelfths.

The filter settings are cutoff frequency (0-63), resonance (0-7), keyboard tracking (on or off), and envelope depth (0-7). The envelope generator is an ADSR, with settings of 0-15 on all four parameters. You'll notice, however, that there is only one envelope generator. You can use this to open both the filter and the VCA, if you like, or you can set the VCA to an instantaneous full open/full close organ-type envelope. This is a significant limitation of the machine, and accounts for the fact that many of its better sounds are somewhat organ-like. But it may have been a sensible place to keep costs down.

A modulation generator LFO (separate from the left-hand controller LFO) has four parameter settings — frequency (0-15), delay time (0-3), depth of effect on the oscillators (0-7), and depth of effect on the filter (0-7). This LFO is also used for pulse width modulation of the first oscillator.

**The Left-Hand Controller.** This is a spring-loaded joystick, which bends pitch up and down when pushed to the right or left, and applies LFO modulation to the oscillators or the filter depending on whether you push it away

from you or pull it toward you. The depth of the bend and the speed of the LFO are controlled from front-panel knobs, and are not programmable.

**Arpeggiator & Key Assign.** Three switches labelled "Key Assign Mode" are used for changing the keyboard's response. "Poly" is for normal six-voice polyphonic playing. "Chord memory" is used to stack up several voices into a chord which can then be played monophonically. The chord can be a six-voice unison if you like, and the keyboard has last-note priority in this mode, which many users will certainly feel is the best type of priority. The "hold" switch defeats the release portion of the envelope, so that any notes played are held indefinitely, provided the sustain value is greater than zero.

The arpeggiator has its own speed control (a definite plus), and switches that allow you to latch arpeggios so they'll play indefinitely, choose between a one-octave, two-octave, or full-keyboard range arpeggio, and choose whether you want arpeggiation up, down, or up and down. Unlike some arpeggiators, which will only let you put as many notes in an arpeggio as the instrument has voices, the Poly-61's arpeggiator lets you play full-keyboard scales if you want to. On the negative side, Korg is still building instruments in which the up-and-down arpeggio repeats the top and bottom notes instead of just turning on a dime and starting back the other way. According to the owner's manual, this is so you can set up a four-note pattern, switch back and forth between the three up/down options, and have the arpeggio stay on the same beat of the bar if synchronized to other music. In our opinion, though, this is a small benefit compared to the large disadvantage of having an unnatural-sounding up-and-down arpeggio.

**The Back Panel.** One of the nicest features of the Poly-61, and one we wish every manufacturer would adopt, is that the names of the back panel jacks and switches are printed not only on the back panel but along the rear edge of the top panel, making it possible to plug things in without craning your neck to see which jack you're going into. The back panel functions are simple, but all the basics are here. The signal output, a 1/4" phone jack, is switchable from low to high level. There is also a headphone output, though unfortunately the signal here is

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so hot that you have to crank the front panel master volume way down when you plug in the phones. Switch inputs allow you to step through the programs, sync the arpeggiator to an external clock, or add some additional release time to the envelope for "sustain pedal" effects. These inputs are all S-triggers, which makes them compatible with most Moog and Korg equipment, but not much else, without an adapter.

**Cassette Interface.** Also on the back panel are the input and output jacks and associated switches for storing the Poly-61's programs on a cassette tape. Again, the signal input and output levels are switchable from low to high — a useful feature, as some people may want to use a portable cassette deck's mike input (high level) while others may prefer a stereo deck's line input (low level). The programs take only about eight seconds to load, which is fast enough to do between songs onstage. There is also a verify procedure for making sure the information on tape matches the information currently in the instrument. You would use this either to check the accuracy of the data you've just stored, or to check to be sure a new set of programs has been loaded from tape properly. When you're using the cassette interface, the LEDs give you messages like "LOAD," "GOOD," and "ERR," to let you know what's going on.

**Conclusions.** The Poly-61 offers a lot of good features at a very reasonable price. Its best sounds are things like strings, harpsichord, organ, and detuned steel-drum effects, but you can also get some shimmering overtones out of the filter, and by pushing the modulation settings to extremes you can even arrive at some

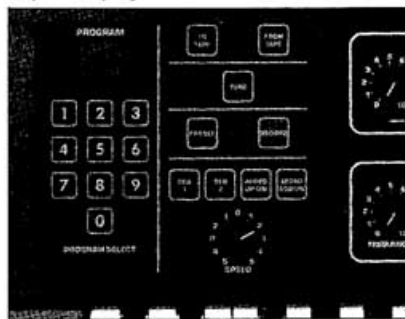
special effects patches that might be useful once in a while. Even with two oscillators, the tone seemed a bit thin to us, so we'd recommend the instrument more for new wave than for symphonic rock — but doubtless a little delay line or amplifier distortion would beef the sound up nicely. If we could make one change in the Poly-61, it would be to add a second envelope generator, but there are still plenty of good organ-type patches you can set up that only need one envelope, so maybe this was a sensible place to cut corners. For the price, the Poly-61 has an amazing number of features, and it will certainly be the right choice for many musicians. ■

## PROPHET-600

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OB-8 and the Prophet-10). But there are more interesting uses. For example, you can have separate sequences or arpeggios running on the

Prophet-600 programmer control panel.

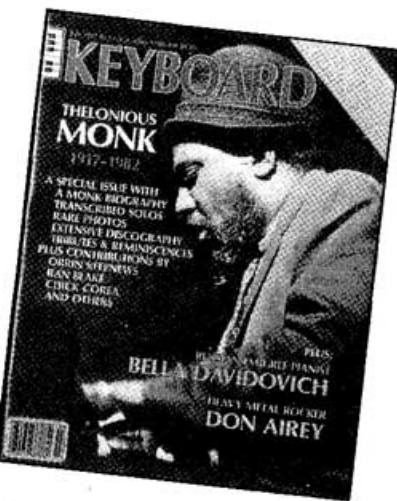


two Prophet-600s simultaneously. These won't be synched, of course, so they won't stay in phase with one another, but for complex swirls of color, locked phase isn't necessarily what you want. In a situation like this, the master 600 will only play its own sequence — but the slave 600 will play them both simultaneously (as long as the chords aren't so thick that its six-voice capacity is overloaded). Both keyboards are still live while this is going on, so you can add further notes by hand.

**Back Panel.** The Prophet-600's back panel is real simple. It has in and out jacks for the cassette interface, a footswitch input, a filter CV input, an arpeggiator clock input, and an audio output, all of which are 1/4" phone jacks, and a pair of 5-pin DIN jacks for MIDI input and output. The power cord, unlike the Poly-61's, is detachable.

**Conclusions.** In general, we were quite impressed with the Prophet-600. Those of you who are familiar with the Prophet-5 may miss the more extensive Poly-Mod section on that instrument, but the 600 has been streamlined for the more typical keyboard applications rather than for special effects — and it does have an arpeggiator and a sequencer, which the 5 doesn't. Having only one LFO is something of a limitation, and some players may be bothered by the fact that the pitch-bend wheel's depth of response can't be adjusted. But the instrument offers a wide variety of pleasing musical sounds, and the ability to load and store programs in sets of ten rather than 100 at a time is sure to be helpful in working out a set that has new tunes added. If the MIDI idea catches on (which we hope it will), the Prophet-600 could easily become the basic keyboard for an extended setup. ■

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