



# KEYBOARD REPORT

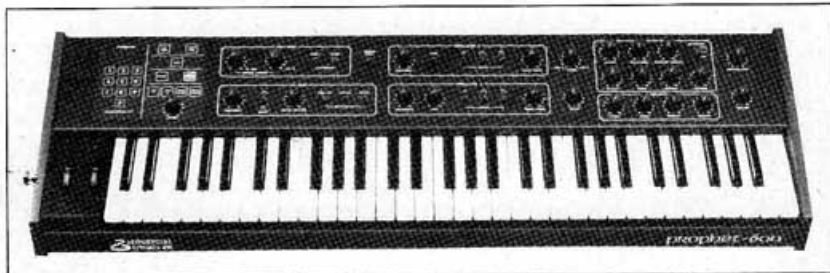
## The Prophet-600

By Jim Aikin

**I**F YOU'VE GOT A FEW hundred dollars more to spend than you'd need for the Poly-61 (see page 74), you might look into the Prophet-600 from Sequential Circuits (\$1,995.00 list). This instrument has several additional features, although it is missing a couple of items that the Poly-61 has. Both instruments have five-octave C-to-C keyboards. The Prophet-600's front panel, unlike the Poly-61's, is strictly functional rather than glamorous. The white lettering on a black background is easy to read, and the knobs and switches are sturdy. The basic layout is the same as that found on the 600's big brother, the Prophet-5, though some of the 5's features have been eliminated to bring the price down. Specifically, oscillator two can't be switched to LFO operation or disconnected from the keyboard control signal, and the Poly-Mod section is somewhat simplified. New features not found on the Prophet-5 include polyphonic glide, chord latching, and a sequencer and arpeggiator.

**The Programmer.** The Prophet-600 holds 100 user-writable programs, which can be stored on and loaded from cassette tape, with the usual error checking procedures. Programs can also be loaded and stored in banks of ten programs each, which is a nice convenience feature. Programs are accessed by hitting a two-digit number on a keypad at the left end of the control panel. The keys here are membrane switches, which don't move at all when you press them. A two-digit LED tells you what program is called up, and if you've made changes in it, a small decimal point lights up between the two digits to remind you. The front panel controls are active at all times; if you turn a control, the sound will jump, sometimes radically, from the value stored in memory to the live value shown on the knob — not our favorite method of operation, but certainly adequate. All the front panel controls are quantized, so even though you're looking at knobs, you're dealing with discrete values just like those you enter directly using the Poly-61's programmer. Some of the Prophet-600's controls seem to have no more value settings than the Poly-61's do, but others have a great many more. Oscillator two, for example, can be tuned to any half-step over a four-octave range, as can oscillator one.

**Arpeggiator & Sequencer.** Just to the right of the programmer keypad is a set of four membrane switches and a knob that activate the arpeggiator and the sequencer. The Prophet-600 will hold two separate polyphonic sequences with real-time loading from the keyboard. The sequences must share a total of about 400 notes, and if you exceed this limit, the sequencer will "wrap around," stealing notes from the beginning of sequence two to finish recording sequence one. If you're playing lots of thick chords, 400 notes probably isn't enough to record a whole tune, but for short repeating phrases it's plenty. Both the sequencer and the arpeggiator use a footswitch. When recording a sequence, you can hit the footswitch at the end,



and the sequence will start playing back immediately. We found it very easy to get it to start its loop right on the beat.

The arpeggiator offers a choice between two modes — up/down and assign. In up/down, you get a standard arpeggio pattern (no repeating notes). In assign mode, the arpeggiator plays the notes back in whatever order you played them in, so if you want an arpeggio that goes up but not down or vice-versa, all you have to do is play the notes in that order. The footswitch functions to latch the arpeggio so it keeps playing after you lift your hands off. Hit the switch a second time and the arpeggio or sequence will stop. The arpeggiator and sequencer won't function at the same time. However, the sequencer does remember your sequences when it's turned off. Sequences can also be stored on tape. Speed of sequencer and arpeggiator can be adjusted with a knob, and a new sequencer playback speed can be programmed to be called up independent of the current knob setting.

**Modulation Section.** The Prophet-600 offers modulation from three sources. The LFO modulation section is separate from the Poly-Mod section, and the latter offers modulation from either oscillator two or the filter envelope. LFO modulation can be either a triangle wave or a square wave. Initial amount and frequency are adjustable, and destinations can be selected from among (1) the frequency of the two oscillators, (2) the pulse width of the two oscillators, and (3) the filter cutoff frequency. The modulation wheel in the left-hand controller section adds to the amount set by the initial amount pot. It's too bad you can't modulate one oscillator without the other. It also seems to us that the LFO frequency won't go fast enough. Its upper limit is about 6Hz — a good rate for vibrato, but too slow for those fast buzzing and pulsing effects.

The Poly-Mod section offers amount pots from two sources — oscillator two and the filter envelope — which can be routed to either the frequency of oscillator one, the filter, or both. Since oscillator one can be synched to oscillator two, this section allows for a wide variety of timbral effects, including clangorous FM effects. We did notice an anomalous interaction among the various pots. What happens is that when you listen only to osc 1, turn osc 2's pitch control up an octave or a tenth or so, and turn the osc 2 amount knob up in the Poly-Mod section, the six voices don't all give you the same pitch.

This is great if you like sour-sounding out-of-tune chords, but it does deny you access to a potentially useful set of FM timbres for normal-intonation playing.

**Oscillators.** There are two oscillators, with osc 1 syncable to osc 2. Sawtooth, triangle, and pulse waves are available in any combination, and pulse width is adjustable over a wide range as well as controllable from the LFO modulation section. Each oscillator has a range adjustable over four octaves in half-steps, and oscillator two can also be detuned up to a half-step with a fine tuning knob. The mixer section is a single pot arranged so that at 12 o'clock both oscillators are full up; as you turn it to the left, oscillator two gradually drops out, and to the right oscillator one gradually drops out.

**Filter & VCA.** Both the filter and the VCA have ADSR envelope generators. In addition, the filter has the usual cutoff frequency, resonance amount, and envelope amount knobs, with a switch for selecting full keyboard tracking, half keyboard tracking, or none. The filter can be set to resonate so strongly it will oscillate on its own, which comes in handy once in a while. The master volume is not programmable.

**MIDI Interface.** One of the most interesting features of the Prophet-600 is a pair of jacks on the back which function as the input and output for MIDI (Musical Instrument Digital Interface) signals. MIDI is a system that allows two computer-based instruments to talk to one another. This idea is still in its infancy; eventually, MIDI connections may become a commonplace item, but so far, the Prophet-600 is the only instrument equipped with them. In order to test MIDI, we got two Prophet-600s and hooked them together. With this setup in its current form, you can do several things. You can select the same numbered program on both Prophets simultaneously from the program select keypad of the master instrument. You can, obviously, play both instruments from one keyboard. You can also use the pitch-bend and modulation wheels on the master to control the slave (or not to do so, if you only want to bend pitch on one instrument for a special effect). Or you can load patch programs directly from one Prophet to another without bothering with the cassette interface.

The simplest application for MIDI is to play two different tone colors at the same time from one keyboard (equivalent to a double mode on more expensive synthesizers like the Oberheim

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## KORG POLY-61

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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

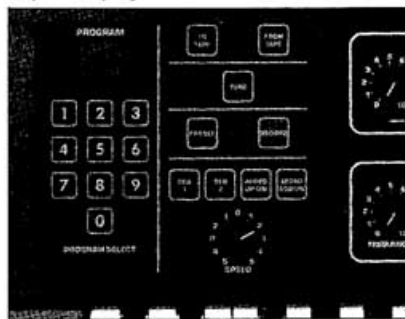
special effects patches that might be useful once in a while. Even with two oscillators, the tone seemed a bit thin to us, so we'd recommend the instrument more for new wave than for symphonic rock — but doubtless a little delay line or amplifier distortion would beef the sound up nicely. If we could 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

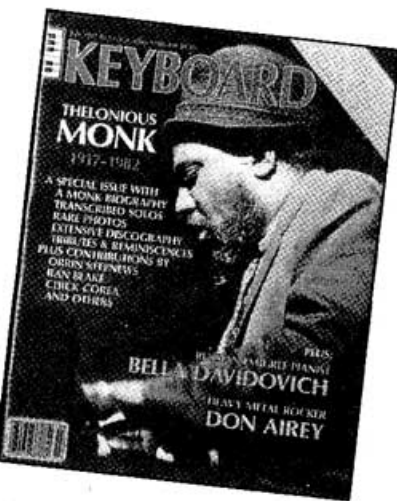
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OB-8 and the Prophet-10). But there are more interesting uses. For example, you can have separate sequences or arpeggios running on the

Prophet-600 programmer control panel.



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