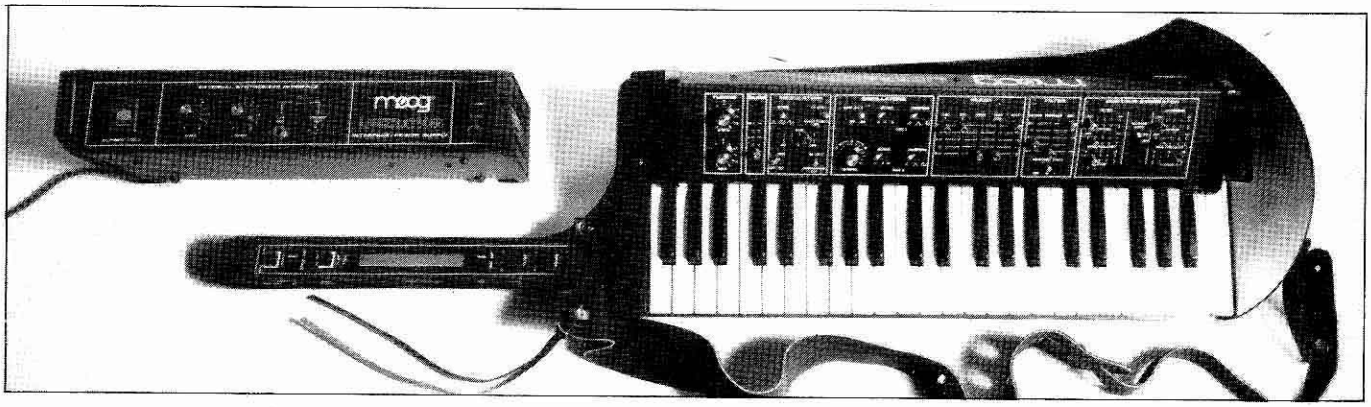
DOMINIC MILANO
KEYBOARD REPORT
The Moog Liberation



LIKE IT OR NOT, the age of the mobile keyboardist seems to have arrived. At one time not too long ago, Edgar Winter and Billy Preston were dancing around with Univox electric pianos or ARP 2600 keyboards around their necks. In a different approach to mobility, Keith Emerson assaulted his audience with a Moog ribbon controller or smashed a Hammond L-100 around on stage. Jan Hammer put a customized Moog 15 keyboard around his neck. Gary Wright did the same with a Minimoog keyboard and a customized keyboard controller for his Oberheim Four-Voice. And then we had a flood of superstar types using something called the Clavitar, an expensive controller which looked like a keyboard hot-rodded to look like a guitar. Among its users were Herbie Hancock, George Duke, and Rick Wakeman. And of course, there was the Roger Powell/Jeremy Hill Probe, which Jan Hammer also started using. And now you can see Greg Hawkes of the Cars wearing a Casiotone M-10 around his neck in parody of the keyboardist-turned-guitarist fad.

This month, we'll be taking a look at one of the commercially available portable synthesizers — the Moog Liberation. The Liberation looks quite a bit like the Clavitar mentioned above, that is, it looks (a little too much?) like a guitar that mutated into a keyboard instrument. Unlike the Clavitar, the Liberation isn't intended to just interface to external synthesizer modules. It includes its own built-in synth electronics, as well as being interfaceable with another synthesizer.

The Keyboard. This is a 44-note *F* to *C* single-trigger high-note priority keyboard. It also has a force sensor under the keyboard which can be used to control modulation and/or pitch-bend. Learning to control this function precisely might take some time, but once mastered, it will prove most useful. The keyboard's feel doesn't suffer from having a force sensor underneath it, as some instruments with a force sensor do, since the key dip is large enough to make the force sensor's presence inconspicuous to the touch (unless you happen to reach around with your left hand and activate the force sensor with a low note while you're playing higher notes above it, in which case you'll feel the force sensor moving around). The overall feel of the keyboard is also pretty good, being neither too stiff nor too light.

Left-Hand Controls. This section of the instrument is located where a guitar's neck is, and it is similarly shaped. At the end farthest from the keyboard are two controls which relate to routing the force sensor's output. The first of these lets you select whether the force sensor will bend pitch or introduce modulation from the LFO. The other force sensor control is an amount pot, which lets you adjust how much modulation is introduced or the range of the pitch-bend introduced by the force sensor.

Next in line is an on/off switch for the glide or portamento function (the rate of the glide is controlled by a slider on the main front panel). Below this is a pitch-bending ribbon. Sliding your finger toward you raises the pitch, while sliding it away from you lowers the pitch, just as if you were moving along a guitar string. The overall range of this ribbon was a minor sixth in both directions on the unit that we had. This might vary from unit to unit, but we were assured that the range upward on every unit is the same as the range downward. Moog Custom Engineering offers a pitch-bending wheel as an option for those of you who prefer that type of pitch-bender, but this is a special-order item and will add something to the cost of the instrument.

Just below the pitch-bender is a pot that controls the amount of modulation from the LFO. Below that is a spring-loaded pot that opens the filter's cutoff frequency across its full range of eight octaves. The last control on the neck assembly is a rotary pot for adjusting the overall volume of the unit.

The Main Panel Controls. From left to right these sections of controls are: tuning, glide, modulation, oscillators, mixer, filter, and contour generators.

Tuning Controls. These are two rotary pots that adjust the overall tuning of the instrument ±3 semitones. The top pot controls the monophonic synthesizer section and the bottom adjusts the polyphonic section (which we'll talk about later).

The Glide Control. This slider lets you adjust the glide time from less than 2 milliseconds to 3 seconds. The glide is of the linear type. (Linear glide moves at a constant rate, while exponential glide slows down as it approaches its destination pitch.)

The Modulation Section. There are five controls in this LFO modulation section. They interact in some ways with the controls on the left-hand controller neck. The first control is a switch for selecting the LFO's waveform, which can be either triangle, square, or psuedo-random for sample-and-hold sorts of effects. Just below that is a slide pot for adjusting the rate of the LFO, which is variable from .3Hz to 30Hz. It might have been nice to have seen it go further into the audio spectrum so you could get audio modulation in addition to vibrato, trill, and sample-and-hold effects, but then it wouldn't be an LFO, would it? There is also an LED that indicates visually what the rate of the LFO is.

Just above and below the rate slider are two switches for routing the modulation to the oscillators and/or the filter. You can also determine whether the modulation is introduced by the mod wheel on the neck or the force sensor under the keyboard. Both means have their advantages. The wheel can be set to be on all the time since it's not spring-loaded, and the force sensor lets you introduce modulation only on the notes you want it on.

The last control in the LFO modulation section is a switch that turns a trigger signal on or off. This trigger is applied from the LFO (and corresponds to its rate) to the contour generators.

The Oscillators. There are two oscillators on the Liberation. Both have octave switches (32', 16', and 8' stops on the first, 16', 8', and 4' stops on the second), and both have three waveforms (sawtooth, triangle, and pulse). The first oscillator's pulse wave is a 10% duty