

## oberheim matrix-12 synthesizer

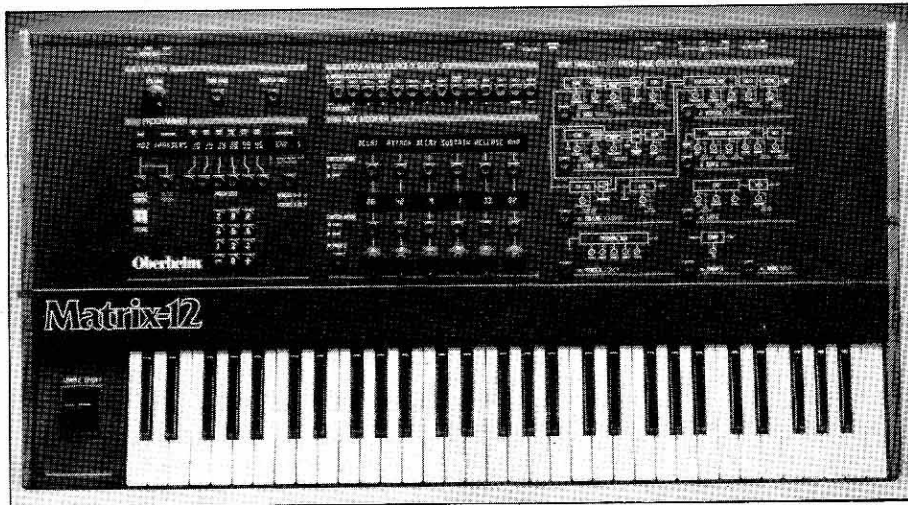
**B**ACK IN SEPT. '84, we did a detailed review of the Oberheim Xpander, a 6-voice MIDI slave module (no keyboard) with an abundance of computer-controlled modulation routings. Oberheim's new unit, the Matrix-12, has virtually the same voice architecture and front panel as the Xpander. A five-octave velocity-sensitive keyboard has been added, and there are actually two Xpanders in the box, giving the instrument 12-voice polyphony. Beyond this, the multi-patch programming makes the Matrix a very versatile MIDI master keyboard, with multiple splits and layering and a choice of channel sends and modes. And yes, the synthesizer section is fully multi-timbral. Each voice can have a different patch assigned to it.

The MIDI implementation has been significantly expanded on the Matrix, and there are some new multi-patch functions as well. Two of the Xpander's features were eliminated, however. There are no longer CV/gate inputs for the voices, nor do the voices have separate audio outputs. Instead, there is a mono output and left/right stereo outputs. (We're told that separate audio outputs will soon be available as an option.) Voices can be panned to any of seven positions in the stereo image, including full left and full right, so you can get large amounts of separation if you need to.

A new button lets you switch the panel display (bright green 40-character vacuum-fluorescent strips) between voices 1-6 and voices 7-12, a simple and effective system for accessing twice as many voices with the same amount of hardware. Little green dots in the programmer display light up to show which voices are sounding at any given time, and a new bit of code provides an extra six dots for the new voices. That's the kind of thoughtful addition that some manufacturers unintentionally omit.

When the Matrix is turned on, the panel returns to the same settings it had when it was turned off—a useful feature. Edits made in a patch are retained as well, though we did notice that an edited patch sometimes produces spurious note-ons (and, fortunately, the appropriate note-offs) when it is first turned on. The last multi-patch you were using is restored when you switch from single patch to multi-patch mode, and vice-versa. Edits are also retained in this situation, which is helpful. As on the Xpander, you can do more than edit all of the patches in a multi-patch by switching back and forth from one to another; you can edit several of them simultaneously, with one knob or switch movement. However, in this case, the simultaneously accessed patches must be in the same voice bank (1-6 or 7-12).

The six keyboard zones have a new voice assignment feature, called 'voice rob.' This allows you to select whether or not already sustaining voices will be pulled away to sound new notes, if you hold down a chord with more notes than the zone has voices. The zones now have a complete Page Two, in which you can switch on and off the MIDI in and out, control of internal voices from the zone, and controller send via MIDI. It's worth noting that the key-



board and the voice hardware of the instrument are completely independent. If for some reason you want to play the Matrix voices from a MIDI input, use its keyboard for a MIDI output, and not have its keyboard playing its own voices, you can easily set up a multi-patch to do this.

Another multi-patch feature not found on the Xpander is the voice detune page. This allows you to detune each voice relative to center pitch by up to a half-step sharp or flat, giving layered multi-patches (doublings, triplings, and so on) a fatter sound. If you like more exotic effects, you could set up a keyboard split in which the two halves of the keyboard were grossly out of tune relative to one another.

The configuration of six knobs and a couple of dozen buttons on the front panel is virtually the same as on the Xpander; these perform various functions depending on what software 'page' is active. One very nice addition, not found on the Xpander, is a modulation listings

page. Previously, the modulation routings (up to 20 per voice) were displayed only on the display pages for their destinations. That is, envelope modulations could be accessed only from the appropriate envelope page, filter modulations from the filter page, and so on. On the Matrix, however, all the modulations can be set up, edited, and cancelled from a single page. This is especially helpful when you're faced with a patch that isn't doing what you expect it to. Stepping through the modulations one at a time allows you to find and edit the offending parameter without hunting through a dozen pages for it.

In our review of the Xpander, we noted that using a keyboard as a modulation source could create problems when the keyboard had more than a 5-octave range. When the keyboard was selected as an input to a tracking generator, for example, the tracking generator would fall back to zero in the top octave of a 6-octave keyboard. This problem has been corrected in the Matrix-12; the tracking generator will now hold its end value clear to the outer edge of the keyboard. (We're told that the newer Xpander software corrects this problem as well.)

The keyboard, though unweighted, has a nice feel, neither too mushy nor too stiff. The velocity response can be assigned any of five different response curves, and if you don't like any of these you can always create your own curve using one of the tracking generators.

Data can be transferred from an Xpander to a Matrix, using either the tape interface jacks or MIDI. New Xpanders will accept data from a Matrix, while older ones will not.

**Conclusions.** We were very impressed by the Xpander when it appeared, and it is even more enticing in its new package, which offers significantly more than two Xpanders at significantly less than twice the price. If you'd like to know more about the details of the instrument's voice, please consult our initial review (Keyboard Report, Sept. '84). The multi-patches are an unbeatable way of getting complex layered sounds out of one instrument in live performance. If you need the separate voice outputs (no longer included) for recording, just sync your MIDI sequencer to the tape and turn on the voice output sends one or two at a time.

The Matrix may well be the ultimate dual-oscillator analog/digital keyboard. So get it while it's hot.

### Oberheim Matrix-12

**Keyboard:** 5 octaves, C to C, velocity and release velocity. Monophonic pressure to be available soon as a retrofit.

**Voices:** Twelve, identical to voices in Oberheim Xpander. Two VCOs, FM amplitude VCA, multi-mode VCF, two VCAs, five dynamically controllable DADSRs, five LFOs, lag processor, four ramp generators, and three tracking generators per voice.

**Memory:** 100 single patches, 100 multi-patches. Each multi-patch contains keyboard zone (split and layer) information, separate patch number for each voice, MIDI voice and zone assignments, stereo panning, detuning, relative volume, etc.

**Interfacing:** MIDI in, out, thru. Cassette in and out. Two pedal inputs, trigger input, program chain advance input. Mono and stereo audio outs.

**Features:** Extensive modulation routings, alphanumeric names for single and multi-patches, programmable keyboard assignment and priority for each zone, choice of key velocity response curves, etc.

**Dimensions:** 39" x 20 1/2" x 6", about 31 lbs.

**List Price:** \$4,995.00.

**Contact:** Oberheim Electronics, 2250 S. Barrington Ave., Los Angeles, CA 90064.