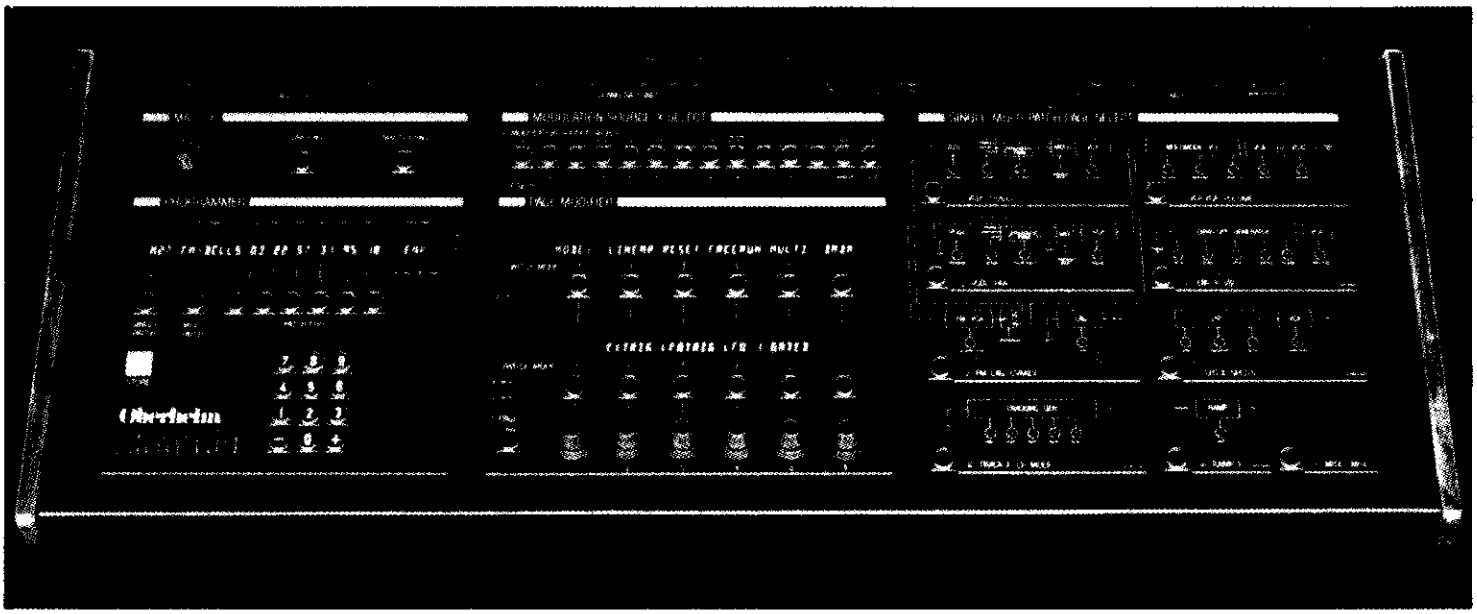
Xpander

SYNTHESIZER EXPANDER



The Oberheim Xpander is a six voice, individually programmable synthesizer, incorporating a vastly expanded new voice design with capabilities far beyond any previous musical instrument.

Not since the modular synthesizers with millions of wires, has a synthesizer had the flexibility of the Xpander. You see, as cumbersome as all those wires were, they allowed the user to connect any output to any input, resulting in sophistication and flexibility unmatched by any programmable synthesizer... until now. Because now the Oberheim Xpander gives you all the control of a modular synthesizer (and then some), plus polyphony and complete programmability in a small package with professional performance.

The Xpander is designed to be controlled by any keyboard, computer, or guitar with MIDI or Control Voltage/Gate outputs, and is the perfect addition to the Oberheim Music System.

Each of the Xpander's six voices is separately programmable, which means that each voice can have an entirely different sound. Each voice can be independently controlled by any of 16 MIDI channels, or any of 6 CV and Gate inputs. For example, two voices could be controlled by an Oberheim DSX Digital Polyphonic Sequencer, while the other four voices are controlled from a MIDI keyboard, such as an OB-8.

VOICE ARCHITECTURE

The secret of the Xpander is its revolutionary voice design. EACH of the Xpander's six voices contains:

Two Oscillators, each with SAWTOOTH, TRIANGLE, and variable PULSE waveforms;

A Filter with 15 modes:
1, 2, 3, and 4 pole low pass
1, 2, and 3 pole high pass
2 and 4 pole band pass
2 pole notch
3 pole phase shifter
3 pole phase shifter + 1 pole low pass
2 pole high pass + 1 pole low pass
3 pole high pass + 1 pole low pass
3 pole notch + 1 pole low pass;

Two Output Amplifiers in series with programmable stereo panning;

Five Envelope Generators, each with Delay, Attack, Decay, Sustain, Release, and an output amplifier, plus all sorts of programmable triggering modes;

Five Low Frequency Oscillators, each with Triangle, Square, Up and Down Sawtooths, Random, and Noise waveforms, as well as sampling of any modulation source, plus various triggering modes;

Four Ramp Generators, each with programmable ramp rate and various triggering modes;

Three Tracking Generators that can change the "shape" of any modulation source;

A Lag Processor for "portamento" effects with *any* modulation source;

Dynamic Linear Frequency Modulation (FM) of VCO1 or the Filter by VCO2.

MODULATION CAPABILITIES

The Xpander's Matrix Modulation system has the capability of routing any of 27 modulation sources to any of 47 modulation destinations independently on each voice. This flexibility is what sets the Xpander apart from other synthesizers. The amount of modulation is independent for each modulation input, and can be positive or negative.

The modulation sources available on each voice are:
LEVER 1 and 2: *Received from MIDI*
PEDAL 1 and 2: *Pedal inputs on rear panel*
ENVELOPE 1 thru 5: *Five independent Envelope Generators*
LFO 1 thru 5: *Five independent LFOs*
RAMP 1 thru 4: *Four independent Ramp Generators*
TRACK 1 thru 3: *Three independent Tracking Generators*
VIB: *A master LFO for synchronized vibrato*
LAG: *The Lag Processor*

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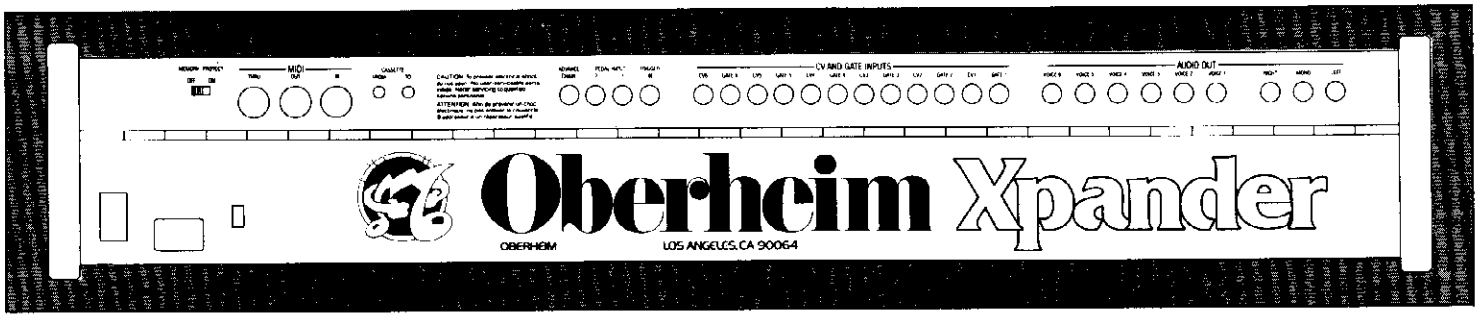

KEYBOARD: *pitch information from CVs or MIDI*
VELOCITY: *velocity received from MIDI*
RELEASE VELOCITY: *release velocity from MIDI*
PRESSURE: *pressure from MIDI*

These modulation sources can be routed to any of the following modulation destinations:

VCO 1: *Frequency, Pulse Width, and Volume*
VCO 2: *Frequency, Pulse Width, and Volume*
VCF: *Frequency and Resonance*
VCA 1 and VCA 2: *Amplitude*
ENVELOPE 1: *Delay, Attack, Decay, Release and Amplitude*
ENVELOPE 2: *Delay, Attack, Decay, Release and Amplitude*
ENVELOPE 3: *Delay, Attack, Decay, Release and Amplitude*
ENVELOPE 4: *Delay, Attack, Decay, Release and Amplitude*
ENVELOPE 5: *Delay, Attack, Decay, Release and Amplitude*
LFO 1: *Speed and Amplitude*
LFO 2: *Speed and Amplitude*
LFO 3: *Speed and Amplitude*
LFO 4: *Speed and Amplitude*
LFO 5: *Speed and Amplitude*
FM: *Amplitude*
LAG: *Rate*

FRONT PANEL

In order to take full advantage of the Xpander's capabilities, a new type of front panel has been developed, with 120 characters of fluorescent alphanumeric displays which show information about a Patch and its parameters. The Xpander divides patch editing controls into sections called Pages, with all the controls for that section available at once in the PAGE MODIFIER section of the front panel. For example, selecting the VCO 1 page causes all of the controls and values for VCO 1 to appear on the front panel. The knobs and buttons can then be used to adjust any of the settings for VCO 1. When a new page is selected, the settings for VCO 1 are remembered, and the new page can be edited as desired.

MULTI-PATCH PROGRAMMING

The Xpander's 100 Single Patches store all of the parameters, as well as the name of each sound program. In addition, 100 Multi Patches are used to program combinations of Single Patches. Each Multi Patch remembers what sound is on each voice (since each voice can have a different sound), as well as MIDI and CV selection, panning, and volume of each voice. Multi Patches will even remember voice assignments to a section of a keyboard called a ZONE. A Zone can be assigned to any MIDI channel and to any number of voices in the Xpander. There are three programmable Zones per Multi Patch, and can be configured into Split, Double, or Triple voicings, even when using a controller without split capabilities. These Zones can also overlap, so that one section of a keyboard can sound like a bass, another like strings, and another like flutes; while the sections between can stack bass & strings, and strings & flutes. Of course, multiple Xpanders can be connected together and controlled simultaneously through MIDI, expanding the capabilities even farther.

The Oberheim Xpander: 90 VCAs, 31 LFOs, 30 Envelope Generators, 12 Oscillators, 6 Fifteen-Mode Filters, 6 Lag Processors, 6 FM Processors, 18 Tracking Generators, 24 Ramp Generators, 3 Zones, programmable panning, 162 Modulation sources, 282 Modulation destinations, 120 modulation busses, ***and an amazing sound.***

Prices and specifications are subject to change without notice

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