The ultimate analog synthesizer, the Matrix-12 features 12 independently programmable voices. Each voice consists of the unique Matrix Modulation System ${ }^{\text {TM }}$ found in the Oberheim Xpander-27 modulation sources and 47 destinations with user-definable routings. The 5 -octave professional keyboard features velocity,
release-velocity and pressure-sensitivity for unparalleled control. Like the Xpander, the Matrix-12 voices can be played from the keyboard or programmed separately to different outside sources - 100 Single patches and 100 Multi patches in all. The incredible Oberheim sound with absolute control.

12 Independent Velocity, Release Velocity and Pressure (After-Touch) responsive analog Voices.
Voice Control Assignment can be per MIDI Input Channel (12 maximum), or per polyphonic grouping in up to six Zones.

On-Board ("Local") Controllers 61-Note ( $\mathrm{C}^{0}$ to $\mathrm{C}^{5}$ ) five-Octave Velocity, Release Velocity and Pressure (After-Touch) sensitive Keyboard, non-weighted.
2 Non-dedicated Modulation Levers.
2 Non-dedicated Pedal Inputs

## Voice Architecture

2 Voltage Controlled Oscillators ("VCOs")
1 15-Mode Voltage Controlled Filter ("VCF")
15 Voltage Controlled Amplifiers ("VCAs")
FM Modulation Generator
1 Lag Processor
3 Tracking Generators
5 Digital Envelopes
5 Digital Low Frequency Oscillators ("LFOs")
4 Ramp Generators
1 Noise Generator
Modulation Matrix Modulation ${ }^{T M}$ System utilizing 27 possible Sources routed to 47 possible Destinations in up to 20 "Modulation Pages" per Voice. 12 Permanent ("hardwired") modulations per Voice.

## MIDI Implementation

MIDI IN, MIDI OUT and MIDI THRU Ports
Transmit and Receive Channel select independent per Voice. (MIDI MONO Mode) or per polyphonic Zone.
Modes Mode 1: OMNI On, Poly
Mode 3: OMNI Off, Poly
Mode 4: OMNI Off, Mono
Controllers Independent Controller Number select
Controllers ON/OFF select
Patch Change Commands ON/OFF select
Miscellaneous MIDI Features
System Exclusive ON/OFF select
MIDI Echo ON/OFF select

Miscellaneous Three 40-Character Fluorescent Displays
100 SINGLE Patch Memory Locations
100 MULTI Patch Memory Locations
"Chain" Programming Mode
Cassette Interface - FROM (input) and TO (output) ports
Trigger Input Requirements: +5 V DC signal minimum, 1 ms Pulse Width
Power Requirements (user selectable):
North America and Japan: 95-120V A.C., $50-60 \mathrm{~Hz}$
Europe: $200-230 \mathrm{~V}$ A.C., $50-60 \mathrm{~Hz}$

| Dimensions | Length | $387 / 16 \mathrm{in} .(97.63 \mathrm{~cm})$. |
| :---: | :--- | :--- |
|  | Width | $205 / 16 \mathrm{in} .(51.59 \mathrm{~cm})$. |
|  | Height (maximum, including feet) | $515 / 16 \mathrm{in} .(15.08 \mathrm{~cm})$. |
|  | Net Weight | $33 \mathrm{lbs} .(14.97 \mathrm{~kg})$. |
|  | Shipping Weight | $41 \mathrm{lbs} .(18.60 \mathrm{~kg})$. |
| Optional Accessories |  |  |
|  | FS-7 Sustain Footswitch |  |
|  | Individual Voice Outputs Update Kit |  |

