

# foundation

P R E C I S I O N I N S T R U M E N T

## FEATURES

Order Of Magnitude LLC is proud to present the Foundation Precision Instrument, a DJ mixer designed to true professional audio specifications. Conventional mixer functionality is preserved while new features are presented in a predictable and straight-forward fashion. Significant features include differential phono preamps, pre-fader channel outputs, stereo group insert points, modular construction, and an external power supply.

As the primary gain stage, a mixer defines the entire system's performance and should be regarded as the base upon which that system is built. Unsurpassed fidelity and a wide selection of inputs and outputs makes the Foundation the ideal tool for studio work and mixdown recording, while the simple control surface and powerful filter stages make it exceptional for live performance applications. Combining select passive components with high-performance active devices yields an extremely transparent signal path and powerful filter sections that compliment today's ultra-club sound systems.

The end result is a high-fidelity device that achieves new levels of performance in dance music mixing. Solid engineering and industry experience have produced a mixer that brings unparalleled quality and functionality to the dance environment.

In the world of professional DJ mixers,  
the Foundation is at a higher level.

### 6 Stereo Channels

- 4 Phono Preamplifiers
- 6 Unbalanced Line Inputs
- 1 Balanced TRS Line Input
- 1 Studio-Grade Mic Preamp
- +/- 12dB Trim Control
- Stereo Input Meters
- 6 Stereo Direct Outs

### 2 Stereo Groups

- XEQ Summing Crossovers with 24dB/Oct Slopes
- Linear Fader Levels
- TRS Insert Points

### Master Mix

- Three-Band Fixed-Point EQ
- Stereo Master Meter
- 10dBm Record Out

### Cue Mix

- Channel Pre-Fade Listen
- Master Mix Pre-Fade Listen

### External PSU

- Rack Mountable
- Redundancy Capable
- Five Year Warranty
- 220V/50Hz Available

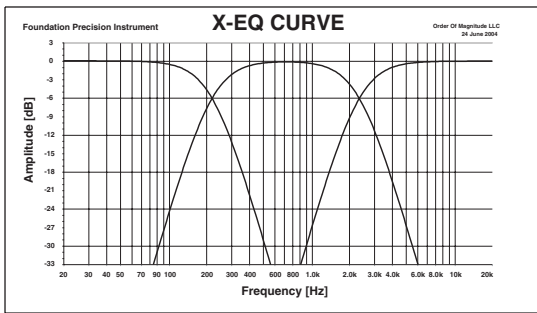
- Gold-Plated Connectors
- +4dBu Operating Level



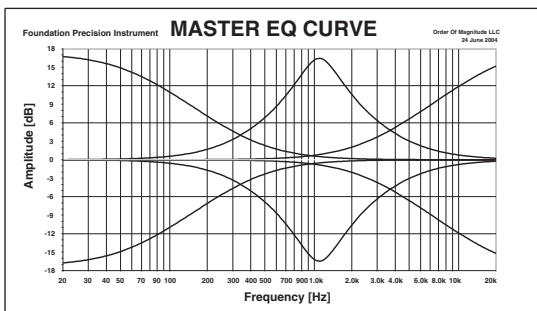
# X-EQ and Master EQ Sections

The X-EQ is a highly accurate three-band summing crossover with 24dB/octave slopes and linear faders. Each of the two groups is routed through its own X-EQ. The highly band-specific nature of dance music makes this an effective way to combine the rhythm (low frequency range) of one track with the melody (mid and high frequency range) of another. The crossover points are 225Hz and 2.25kHz.

The recommended input configuration takes advantage of the two stereo sub-group X-EQ's by putting a line and a phono input on either side of the center group section. When one phonograph is routed through channel three and the other phonograph is routed through channel four, they each appear on their own X-EQ, which can then be used to mix between the two phonographs. Routing a CD player to channel two and one to channel five allows each line input to have a dedicated X-EQ in a similar fashion. Ultimately this removes the necessity for equalizers on every channel.



The Main Mix is equipped with a conventional fixed-point equalizer for manipulation of program material in a more conventional fashion. Brightening a dull cartridge, adding more weight to a kick, or smoothing out a digital source is easily done using the Master EQ. The Master EQ has a low shelf at 90Hz, a mid peak at 1.2k, and a high shelf at 8kHz. Each band has a gain range of +/-12dB.



Curves are approximations based on simulations.

# Preliminary Technical Specifications

## Input

Phono Inputs  
 Impedance 47kΩ||250pF  
 Nominal Level 7mV@1kHz  
 Connectors IHF (RCA-type)  
 Freq. Response +/- 0.25dB, 100Hz-10kHz  
 +/- 1.0dB, 20Hz-20kHz

Line Inputs  
 Impedance 22kΩ  
 Nominal Level 2Vrms  
 Connectors IHF

Microphone Inputs  
 Impedance 5kΩ  
 Nominal Level 20 mVrms  
 Connector XLR 3-pin female

## Throughput

THD+N -83dBu, channel faders down  
 EIN -100dBu, 50kHz BW  
 Distortion @ 1kHz Phono to Main Out <0.03%  
 Line to Main Out <0.01%  
 Crosstalk @ 1kHz Channel to Channel <-90dB  
 Dynamic Range >110dB, ref. +26dBu

## Output

Connectors  
 Main and Booth 3-pin male XLR  
 Record IHF (RCA-type)  
 Direct Out IHF (RCA-type)  
 Maximum Levels  
 Main and Booth +26dBu into 600W, <1% THD+N  
 Record Out +20dBu into 600W, <1% THD+N  
 Direct Out +20dBu into 600W, <1% THD+N  
 Output Impedance  
 Main and Booth 50Ω Electronically Balanced  
 Record 100Ω Single-Ended  
 Direct 100Ω Passively Balanced  
 Headphone  
 Power 250mW into 200Ω load  
 Connector 1/4" TRS

## Power

Connector 3-pin IEC  
 Input 117V/60Hz (220V/50Hz Option)  
 Consumption <300W

## Physical

Dimensions 3RU  
 Weight  
 Options Redundant Power Supplies

## Order Of Magnitude, LLC

Dedicated to the design...

